The Practical Lawyer's

MANUAL FOR AUTOMATIC LAW-OFFICE TYPING

BERNARD STERNIN
with chapters by LOUIS C. ALLEN, JR.

ALI ABA

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FOREWORD

During the past few years, THE PRACTICAL LAWYER has been privileged to have played a role in acquainting lawyers with the revolutionary techniques and increased efficiency made possible by automatic typewriters. This manual brings together a series of articles on the application of automatic typing in the modern law firm.

The series began in May 1968 with the publication of Bernard Sternin's article, *How To Automate Law-Office Typing—A Step-by-Step Approach,* which described the basic system for programming case data, routine letters, and legal documents. In subsequent issues, Mr. Sternin has contributed five additional articles explaining numerous aspects of the profitable adaptation of automated typing, the most recent appearing in March 1971. Meanwhile, Mr. Sternin assisted THE PRACTICAL LAWYER in contacting law firms throughout the country to stimulate further articles on automatic typing. This led to two articles on the IBM MT/ST by Louis C. Allen, Jr., which are also included in this manual.

The eight articles are reprinted in chronological order, exactly as they originally appeared. Therefore, the later chapters serve to update the previous ones with regard to the newer and more advanced machines that have come onto the market. To complete the volume, Mr. Sternin has prepared a special introduction and has compiled an extensive rundown on the various machines now on the market, information about suppliers of recording media and other accessories, and a bibliography. We have also added a Letter to the Editor, describing additional uses of the MT/ST, that was received from Professor Michael H. Cardozo, Executive Director of the Association of American Law Schools in Washington, D.C., and a member of the ALI-ABA Joint Committee on Continuing Legal Education.

Bernard Sternin has long been an exponent of the benefits of automatic law-office typing. As early as 1963, his first article on this subject appeared in THE PRACTICAL LAWYER. Other articles have been published in LAW OFFICE ECONOMICS AND MANAGEMENT and by IBM and Prentice-Hall. Educated at New York University and Harvard Law School, he was admitted to the New York Bar in 1951. He is a member of a law firm in Brooklyn, N.Y., that has made successful use of automatic typewriters for many years.

Louis C. Allen, Jr., is engaged in the general practice of law in a three-man firm in Burlington, North Carolina, which makes use of an IBM MT/ST. He is a graduate of Duke University Law School and a member of the Order of the Coif.

The legal profession is indeed indebted to Mr. Sternin and Mr. Allen, whose efforts in applying this new technology to the needs of the law firm, and in sharing their experience with others, have made this manual possible.

William D. Parry
for Paul A. Wolkin, *Editor*
THE PRACTICAL LAWYER

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Introduction

The automatic typewriter is rapidly developing into an important office tool. Many attorneys are beginning to explore its potential in an attempt to contain spiraling costs, while maintaining quality work in an era that increasingly demands quantity production.

More than with any other piece of office equipment, the selection and successful utilization of the automatic typewriter requires extensive management involvement. The very versatility of these machines requires considerable thought by each potential user, to decide which he will select and how he will employ it. He will have to undertake the development of appropriate systems and materials to make his approaches function.

Unless an office limits its applications to superficial uses, extensive planning by at least one member of the professional staff will be required. Further, the extent of the return that the equipment will effectuate will be directly proportional to the involvement at the professional level.

I therefore believe that this manual is timely in bringing together the various articles that have recently appeared in THE PRACTICAL LAWYER dealing with automatic typewriters.

WHAT IT IS

An automatic typewriter is a machine that is capable of typing in response to a recorded media, such as a tape or card. Usually the same machine is capable of making a recording in response to typing on its keyboard. When creating a recording, routine typing methods are used, except that errors are always corrected on the recorded media and only optionally corrected on the paper. During playout, the machine types by itself, at very high speed and errorlessly.

The operator may stop the automatic typing at any point in order to make additions by typing on the machine's keyboard, or to make deletions by having the machine skip words or lines. When automatic typing resumes, any variation of line length caused by additions or deletions is resolved automatically by the equipment on some models, or manually by the operator on other, less expensive ones.

You can best begin your exploration of the subject in this way:

- Understand what automatic typewriters can do in a law office;

- Decide whether any of the aspects of your practice can utilize any of the machine's capacities to an appreciable extent; and, if so,

- Familiarize yourself with the equipment available, so that you can choose which is best suited to the use you intend.

WHAT AUTOMATIC TYPEWRITERS CAN DO

Generally, automatic typewriters can be employed in three different ways in an office.

- *Rough Drafting.* The equipment is used to type onto scrap paper to produce a recording on which errors are immediately corrected by the typist as they are made. The recording is then used to produce an error-free typed product.

- *Revisionary work.* The equipment is used to revise proposed typed material as it is developed into final form. Only new language needs to be typed manually. The prior recorded material is either untouched, rerecorded if changed, or skipped over if unwanted.

- *Repetitive typing.* Pre-record units, such as paragraphs of la guage, captions, or names a addresses, are fed into the equi ment to produce a typed documen The final product is not necessari identical with the recorded uni used to compose it, because su plementary materials may added from the machine's ke board and pre-recorded words a lines may be bypassed.

You will probably find it helpf to keep these separate uses in mi and to categorize your reading terms of them.

CAN YOU USE THESE CAPACITIES?

Rough Drafting

The use of automatic typi equipment to produce an error-fr end product, by correcting typi mistakes on the recorded card tape, has several very importa applications:

- Perfect typing can be produc by anyone, irrespective of typi ability. If you have dispaired obtaining quality work, explo this new approach.

- If you employ an individual wl is a skilled typist but whose wor load seems to exceed her time, sl should be able to increase h output by about 50 per cent by using a rough-draft approach. She will not have to limit her speed to reduce the risk of errors, nor will she have to lose time making corrections on multiple copies.

- If you are pressed for greater flexibility in the utilization of your present staff, bear in mind that anyone can operate the automatic typewriter for a rough drafting application. During periods of illness or vacation, or at times when your regular operator is needed elsewhere, a stand-in may be shifted to the automatic typewriter, who may have to work a little longer, but who will ultimately produce the same perfect output.

Revisionary Work

The editing of proposed material is appreciably expedited by the use of an automatic typewriter. During each revision, only new language needs to be typed manually. The equipment will automatically retype the unchanged material and skip unwanted words or lines, errorlessly and at high speed.

If a substantial part of your work involves the negotiation of written instruments in the presence of your client or third parties, the saving of time spent waiting for each section of the document to be retyped, and then checked, can be an important reason for obtaining automatic typing equipment. A significant amount of high-priced executive talent is being wasted waiting upon the return of edited copy and reviewing it for accuracy.

Even if the only parties involved in drafting are you and your typist, the machine can save you most of the time you spend proofreading your edited material, since only the changed material needs to be inspected.

An automatic typewriter will reduce your typist's rerun time extensively. If a significant part of her work involves names, addresses, descriptions, and figures—materials that will slow any typist—an automatic machine can increase her work output of revised material several times over.

Repetitive Typing

Repetitive or pre-recorded typing is generally of two kinds. The first is *data:* names, addresses, caption boxes, and so forth. The second is *language components:* the paragraphs or other units of material that comprise the body of the document.

If your practice involves high-volume typing of case data, such as the names and addresses of your clients and your adversaries or the captions or titles of many cases onto forms and backs, an automatic typewriter may be justified for this use alone. There are many printed forms for which the bulk of the required typing consists of these few items of data, typed repeatedly throughout the pendency of the matter. These are slow items to type manually and produce a high frequency of error.

Many areas of practice are able to make use of pre-recorded paragraphs of language, used repeatedly in identical or substantially similar form, to aid in the preparation of documents. With planning, large tracts of work can be organized into systems of paragraphs capable of being utilized by an automatic typewriter in any sequence required.

Bear in mind that pre-recorded material can be stop-coded to provide for manual entries from the machine's keyboard, and that the machine's ability to skip words and lines allows for the use of pre-recorded material in a modified way. If you are currently using form books as dictation aids, you already have a foundation for a transition to the automatic typing of these repetitive language units.

CHOOSING THE APPROPRIATE MACHINE

The selection of the automatic typing equipment best suited for your office is discussed elsewhere in this manual, followed by a compilation of recent information gathered from manufacturers and suppliers.

The main differences among the various machines available involve three factors, which will be discussed in detail in later chapters:

- *Recording media.* Some ma chines use punched paper tape an edge-punched cards, others us magnetic tape contained in plasti cartridges, and others use magneti cards. The choice is importan because some media are mo adaptable to certain applicatio than others. Also, paper is muc cheaper than magnetics, but is n reusable.

- *Automatic Line Adjustment.* additional cost, some machines ca automatically reposition the poi at which lines will end, where m terial has been added or delete

- *Transfer Capacity.* Some m chines can automatically transf recorded material from one ta or card to another, together wi any changes or revisions, to for a new or upgraded recording.

However, one should not rea the materials that follow simp as a search for an appropria machine. Primarily, the autom tion of typing is not a machine, b rather an approach (or really se eral approaches) that these m chines make possible. I hope th you will seek in the content of th manual the potential of the approaches.

For many of us in the legal pr fession, automatic typing equi ment can have an impact on offi practice beyond anything we ha ever experienced.

How To Automate Law-Office Typing—A Step-by-Step Approach

THE AUTOMATIC typewriter can revolutionize the production of legal paperwork. If you have never seen one of these machines in operation, you owe it to yourself to look one up.

Typing by itself at about 160 words per minute, it can turn out captions, file numbers, names, addresses, correspondence, schedules, legal material — all without error, without pause—hour, after hour, after hour. The format is right; the content is right; the spelling, grammar, and punctuation are right. Everything is right—once and for all.

At first glance, this robot looks like a standard electric typewriter. Indeed, it can be used in the regular way by any typist; no special training is needed. What makes it different is that it can record—by means of punched cards or coded tape—whatever is being typed.

These cards or tapes can be removed from the machine and stored. At any later time, they can be inserted into the machine to operate the typewriter automatically, retyping the language or data recorded on them.

ADVANTAGES OF AN AUTOMATED SYSTEM

To the Attorney

For the attorney, an automatic typewriter can effect tremendous savings in time, money, and staff flexibility. At a cost of about $4,000, it can easily double a secretary's productivity.

The work literally barrels out. The machine cuts through the lawyer's wait time for material to get back to him and eliminates his need to proofread. During illness, vacations, or night work, anyone else in the office can fill in.

The machine drinks no coffee, needs no lunch hour, has no boy friend, makes no phone calls. It fails to qualify for social security, sick benefits, or pension fund. It does not marry and has never been known to become pregnant. It just works.

To the Secretary

For the legal secretary, the machine affords a release from the routine of typing. Her value to her employer comes to lie in her familiarity with the firm's materials and procedures and not in her ability to use her fingers.

Her capacity to produce work that formerly needed several employees enables her to earn more money and places her employer in a position to pay it. As her understanding of the equipment increases, she is able to make creative and significant contributions to the office system—any one of which may produce savings worth hundreds of dollars.

Value of the System Itself

Initially, most attorneys can see little use for automatic typing equipment in their practice. The fact is, their work is rarely set up in a w that can use it. An automatic typ writer must be introduced into office that has already structur some part of its work in a way th can utilize the machine's capab ities.

The purpose of this article, ther fore, is twofold:

- It will show you how to set certain aspects of your office mat rials in a way that could permit y to use automatic typing equipme when you are ready for it; and

- It will show you how to obta immediate benefits from organizi your materials into such a system even before you purchase a sing machine!

You will find that the metho materials, and systems you devel in preparing for automation are valuable as the machine itself. N only will this setup save you ti and money—it will clearly demo strate the applicability of the aut matic typewriter to your practic Once your programming is read you will know, without any dou that the approach will work a that the machine's cost will be couped fully by the immediate sa ings in labor that it will effect.

PROGRAMMING

The job of setting up materia in a way that can be used by aut matic equipment is called *progra* *ming*. In the law office, a programmed approach gets paper work done by analyzing it into parts and storing those parts in a way that enables them to be put together into final jobs.

A will form book can serve as an example. Wills are broken down into their component paragraphs, indexed, and put into a book. The attorney selects certain combinations to construct the kind of will he wants.

This familiar idea—structuring materials into small units that can be integrated together—is the basis of the automated system. Your first step, therefore, is to undertake to type and store certain of your materials as physically separate phrases and paragraphs.

This project can be accomplished inexpensively and with no disruption of office productivity. All the work will be done by members of your own office staff—at their own pace, in whatever free time is available.

Obviously, your system will be reprogrammed as you use it. Classifications will be supplemented, rearranged, and consolidated. Many changes will be made. But over the months you will put together something really worthwhile, saving you countless hours of work, week in and week out.

Raw Materials

The basic raw materials for recording and storing the components of your system are easily obtained and negligible in cost. These items include:

- A supply of three- by seven-inch index cards;
- Cardholder pages, 8½ by 11 inches in size;
- Several 8½- by 11-inch, looseleaf ring books; and
- Tabbed indexes.

The index cards are of the same weight as those used in routine filing, although the size is a bit different. The 8½- by 11-inch cardholders are cardboard pages with pockets or flaps designed to hold 10 of the three- by seven-inch cards in overlapping fashion.

When inserted into the cardholder pages, the top inch of each index card is visible, so you can see 10 cards at a glance. Since the cards are merely inserted into the flaps of the cardholder pages, and not attached to them, you can remove any card, use it, and then replace it. If any item needs revision later, only one card will be affected.

The cardholder pages are punched to fit standard, 8½- by 11-inch, looseleaf ring books. Tab dividers are used to subdivide the books into sections. Since it is looseleaf, pages may be added or removed at will. When a binder fills up, simply ob-

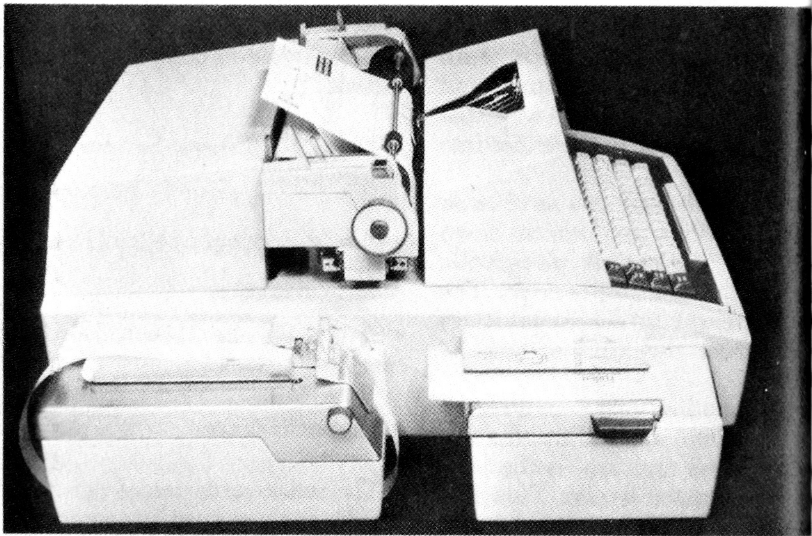


ILLUSTRATION 1: Side view of an automatic typewriter, with punch at t
left and reader at the right. Both will accommodate cards and tape.

tain another and divide the pages between them.

These materials, if not available locally, can be ordered through the source set out in Appendix Two to this article. The quantity that you order will depend on the size and nature of your practice and the extent to which you want to carry the approach. Except for the index cards, the balance of the material is reused indefinitely.

Organizing Office Materials

The materials to be typed onto the three- by seven-inch index cards will be of two types—*case data* and *language components.* Case data may be set up by a secretary, but
language components should
handled by an attorney.

By structuring your office ma
rials with this two-pronged a
proach, both can be done simulta
ously and more or less independe
ly of one another.

CASE DATA

Case data includes the nam
addresses, caption boxes, and suc
that relate to particular matt
pending in your office. This ki
of data comes into existence f
each new file and is usually d
posed of when the case is closed.

While the matter is pending, i
data is reused many times—on l
ters, envelopes, legal cap, print
forms, manuscript covers, and li

tion backs. When a case is closed, cardholder page will be reused r some other case. (Consequently, you write the case name onto the ge, use only pencil, to avoid per- anent markings.)

Language Components

Language components, on the her hand, will consist of the at- rney's work product—wills, con- acts, motions, pleadings. Letter- riting may also be included.

Language components do not re- te to any one case in the office, but ther to your practice as an en- ety. Once these materials are pro- ammed, they remain in use in- finitely.

rd Format

Both case data and language com- nents will be typed onto the three- seven-inch cards. *Do not use any her size card.* In this way, one rage system will accommodate erything.

Furthermore, the three- by seven- ch size has many advantages.

Seven inches is the ideal width. he length of an average line typed to 8½-inch legal cap or an 8½- ch letterhead is six inches. Thus, e card accommodates such lines ith an inch to spare and acts as automatic right-hand margin to event excessive line length.

The three-inch height is also ideal. is easy to handle and store, and an accommodate both your case data and the paragraphs of your work products. It stores perfectly in the cardholder pages.

Another reason for this format is that it can easily be converted into an automated system. Automatic typewriters are operated by punched cards measuring three by seven inches. They also use tapes that can be folded into that size or stored in envelopes of the same dimensions.

Switching to Automation

Should the time come when you decide to change over to automatic typing, conversion into components for use with an automatic typewriter is simple. Once you have developed and stored your programs as described here, the switch will merely involve replacing your existing cards with the machine's cards—which are also three by seven inches.

No other change will be needed, no further expense incurred. Your secretary will do the entire job.

Using your newly acquired automatic typewriter, the secretary will copy the language from your existing cards onto those used by the machine. She will do her typing onto labels, while the machine simultaneously records the material by punching holes along the edge of its special cards. She will then affix the label to the punched card.

The cards come attached end to end, in accordion fold, so that, no matter how many lines of type are needed, you end up with a chain of cards that fold up to three by seven inches. They are then stored in the same pocket in the cardholder page that had been occupied by your original card.

Within a few days after the machine arrives, your staff will have it programmed and operative. There will be no change in the method in which the component cards are stored, found, numbered, dictated, or even in what they look like—except that the new ones will contain punched holes along one of their edges.

Your old cards will be saved and stored for use by the attorneys in the office, who will do their dictating from them. The new cards will be at the machine, ready to operate it automatically to turn out errorless work, faster than you have ever seen.

Planning for the Future

Data processing equipment—such as storage and retrieval systems using photography and telephone-connected, rented computer space—might someday be adopted in the practice of law. But you will not be in a position to use any of it unless you first lay the groundwork.

You must first decide what data in your practice is sufficiently used to warrant storage. You must design the format of these items so that they will tie in with the letters, forms, legal materials, covers, and envelopes that your office uses.

These decisions require experimentation and constant modi tion as you learn from practic you undertake to abstract, for ize, and store your data as descr in this article, you will establish necessary prerequisite for u whatever data processing equip the future may offer.

Best of all, the materials yo ganize and store in this manner have immediate and increa value to you, irrespective of you eventually decide about mation.

PROGRAMMING CASE DATA

Each case now active in office has certain data that relat it—names, addresses, titles, capti dates, locations. This data bec necessary when the file first into the office and will contin be needed until the case closes.

Programming your case dat volves:

- Assigning a cardholder pag each case currently pending; a

- Typing each relevant item of onto a three- by seven-inch car be stored in that page.

Should you have to make permanent change in an ite data, only one card is affected old one being destroyed and a one inserted. As the case progre further cards may be added.

Usually, one cardholder page be enough for one case. If not, n double up two cards in a pocket add an adjacent page. When a w case is received, a new card-lder page for it is added to the oseleaf binder.

dvantages

The advantages of this approach storing case data are extensive.

The data is separate from the file d may be kept at the typewriter. here is no need to get the file be-e the job and replace it afterward. hat saving, in itself, can increase ork output tremendously.

It provides a simple method for eping all data current. Therefore, time is lost in determining hich data is up-to-date.

The storage method is internally pandable to any degree needed d at any internal point, without sturbing any other units. Because difications may be made so easily, ur staff will keep the system ving.

All members of the office will nefit by having a central, up-to-te, reliable repository of the basic se data pertinent to every matter rrently active. They can use the ice intercom to have needed data d to them.

Your secretary will find the cards e ideal place on which to make lated notes such as "owner of 17 N. Y. 68."

- The cost of the system is low. Except for the cards—the cheapest part of it—everything else is reusable.

- The system lays a perfect foundation for a switch over to the use of punched cards to automate the typing of these materials. It will also get your staff to work out just which items of data should be abstracted for your particular practice —a necessary prerequisite to the use of equipment and techniques that may become available in the future.

Names and Addresses

YOUR CLIENT

The most common data card will probably contain a name and address. This card should be designed to include the letter salutation as well (such as "Dear Miss Henry" or "Dear Janet") so the typist will know the form of address you want used. Even a stranger to the office will know how the letter should be headed.

The card should also include your office reference. In that way, if it becomes separated from its holder, it is always clear where it belongs.

A typical name-and-address data card is shown in Form 1 on the following page. These name-and-address cards have several uses:

- They give all the necessary infor-

FORM 1—CLIENT'S NAME AND ADDRESS

Dr. and Mrs. Martel Williams
123 Seventh Street
Rockhaven, New York

Re: 7r123 Williams v. Gille

Dear Dr. and Mrs. Williams:

mation your secretary needs to head a letter or to address an envelope.

- They lend themselves to being photocopied onto preprinted form letters.
- They afford a place onto which notations can be made.
- When the data is placed on punch cards, the automatic typewriter can be used to head all letters, address all envelopes, and fill in all fo requiring the name and addres the client.

YOUR ADVERSARY

The next item of data to be pl on such cards is the name and dress of your adversary in pending matter. The data sh also include a statement of his resentation, as shown in Form

With this material in storage information is at hand with w

FORM 2—ADVERSARY'S NAME, ADDRESS, AND REPRESENTATION

Austin Spiegel, Esquire
Attorney for defendant
Lori Gillet
99 Front Street
Bachbay, Long Island

Re: Williams v. Gill
Your file: 37WPL8905

Dear Mr. Spiegel:

address both letter correspond- nce and formal legal materials. utomatic typing equipment could pe this data in whole or in part, ipping the second and third lines hen used to type a letter or address envelope.

The data can also be used to com- lete printed affidavits of service d other forms.

Third Parties

Names and addresses of frequent- recurring third parties should o be set up on data cards. These ight include referring attorneys, ating physicians, and govern- ental agencies.

These cards may be typed as a product of the initial writing— her by using carbon paper over index card or by making an extra py of the letter onto heavy paper d cutting the heading down to e three- by seven- inch size.

ptions

In a litigation practice, the caption each matter must also be stored. r this, use the same three- by ven-inch cards, held *vertically*.

Despite what may appear on first pression, three inches is the ideal dth of a litigation caption. Three hes is the width of a panel of al back; consequently, your cap- n will fit it perfectly. Since three hes is half the width of the six- h area actually used for typing on inch paper, a three-inch area ll remain to the right, allowing room for other descriptive material.

Begin the practice of including index numbers and calendar numbers at the head of the caption, as is customary in a panel on a legal back. The seven-inch length will be sufficient to accomodate the vast majority of captions without need to go onto another card.

The use of three- by seven-inch cards for captions, moreover, will preserve uniformity in your storage system.

Standardize Margins and Tabulation

Few legal secretaries have ever given thought to adopting a standard left margin and a uniform tabular layout for office typewriters. Each typist sets and resets her machine as she chooses. As a prerequisite to automatic typing, therefore, you should establish fixed settings to as large an extent as possible.

The reason for this is easily illustrated. Suppose that you set up your punched cards in such a way that the word "*vs.*" in a caption box is reached by one tabulation from the left margin and the words "plaintiff" and "defendant" are reached by two. If the secretary moves the left margin, changes the tabular stops, or adds another tabular stop between the margin and the previous stops, the automatic machine will blindly produce a new, and probably unacceptable layout.

Manual typing also profits from fixing a standard left margin and permanent location of tabular stops. The time spent in resetting them is saved. Moreover, there is a "best" way. Once found, everyone should use it.

SAMPLE TYPEWRITER SETUP

The following is a sample margin and tabular setup that has proved successful in law-office typing. Use this arrangement until you find a specific reason to vary from it.

- Set the left margin at 40.
- Set tabular stops at 50, 60, and 70.
- Insert letterheads and legal cap with the left edge at 25.
- Insert Number 10 envelopes (nine inches wide) at zero.
- Reach date line and letter closing with three tabulations.
- Reach paragraph indentations with one.
- In captions, reach *"vs."* with one tabulation and reach "plaintiff" and "defendant" with two.
- Reach other points by spacing to them from the nearest tabular stop.
- Make it a practice never to vary the overall structure. However, further tabular stops may be added beyond 70 without affecting this setup.

Design Your Own Forms

To put your stored data to b
use and to prepare for eventual c
version to an automatic typewri
it is a good idea to design and pr
the forms you use commonly, i
stead of buying stock forms a
stationer. In that way, you will
able to structure the forms to
commodate the three- by seven-in
manner in which you store yo
data.

The undertaking will result
immediate savings in money. For
you have made yourself will c
about one cent each if you orde
thousand, less if you order mo
Store-bought forms cost consid
ably more. By printing your ow
you can specify the weight of t
paper used and effectuate a signi
cant saving in postage.

The forms you design yours
will be tailormade to your of
needs—not a compromise with t
requirements of the entire prof
sion. They can also be produced
mimeograph—an inexpensive w
of handling quantities of a few hu
dred—or by photo offset, whi
allows you to paste together a
kind of form you like.

PROGRAMMING LEGAL MATERIA

Lawyers were probably the worl
first programmers—at least in
gard to language components. W
are accustomed to working wi
form books in which separate pa
graphs cover a multitude of pos

bilities. We know how to select the paragraphs we want, sometimes modifying them or supplementing them with language of our own, and to integrate them into a final product suited to our clients' needs.

The System

This approach — the integration of previously structured language components to produce an end result—is the basis of the automated system. Using the same storage materials as for case data, it involves breaking a legal document into component phrases or paragraphs and storing each on a three- by seven-inch card. For each component, there will be a number of alternative cards to cover various situations.

When these cards are code numbered and arranged in logical sequence in the cardholder pages, you will have something more than an ordinary form book. Whereas a form book is basically a research tool—to be studied to see how others have handled drafting problems with which you have little experience—yours will be a *work* book.

The component parts will have been thought through and will consist exclusively of materials actually used by your office, in the language you prefer. You will avoid the think-and-find time usually spent in filtering through a multitude of forms, most of which you would never use or would have to rewrite anyway.

Sample Programmed Document

Appendix One to this article demonstrates how a typical Notice of Motion might be programmed. Each phrase or paragraph would appear on a separate card. The card headings and code numbers would not be reproduced on the final document. Only a few of the many alternative components are shown here.

Even without an automatic typewriter, this system would enable you to dictate a Notice of Motion very quickly. The sections are structured to lead you through the document step by step. Each component ties in linguistically with those before and after it. Numbered spaces are left for insertion of information relating to the particular case.

Dictating from Cards

From the first time you use the system, you will be able to dictate paragraphs and phrases by indicating their numbers. You will capitalize on your previous analysis and organization of this kind of document and will not have to spend time wondering about all that might be needed, where to find it, and in what sequence to write it.

If you are missing a component, simply compose it on a card in longhand, insert it into the program at the point where it belongs, number it, and then proceed to dictate it as part of the job you are doing. (Your secretary can type a card for it later.) Nonprogrammed material and insertions are dictated in the ordinary way.

When you acquire an automatic typewriter, your secretary will simply insert the designated punched cards into the machine in the appropriate order. If there are places within the document where special material must be inserted, this is made possible by the use of a "stop" code on the card. The machine will automatically come to a stop, allowing your secretary to type the insertion manually.

Each time the program is used, it is tested and possibly further developed. Each addition brings it that much closer to the point where all necessary components will already have been written.

Selecting Items To Program

The approach illustrated in Appendix One may be extended to many other types of work. It is not important that only part of the item lends itself to programming, since automation of almost any amount of standard language will effect a saving. Even in so tailormade a document as a bill of particulars, as much as half of the introductory phraseology of each paragraph is standard.

When selecting the item with which to start your programming career, limit it narrowly. Set up automobile complaints, not all complaints; husband-and-wife wills, not all wills; a motion for a particular kind of relief, not all motions.

By using a narrow field, you
obtain a useful product imm
ately. Your components will be
into actual office use, and your
perience will crystalize. Should
later decide to program other ap
cations, you will capitalize on w
you have learned from your pr
ous efforts. You may even be
to adapt some of your existing co
ponents.

Organizing Your Materials

In planning your program,
should not be satisfied merely w
setting up the language you wa
You should organize the langu
components into sections, groupin
or divisions, setting out the mate
so that the parts of each section
integrate with the one precedi
and following it to form a finish
work product. Code the cards w
letters and numbers to show
sequence of their intended use a
store them in that order.

Steps To Follow

Once you have selected the it
that you plan to program, foll
these steps:

- Accumulate component langu
parts. These will usually be pa
graphs, although in motion practi
they may be phrases. Clip them
of closed and pending files. A
your secretary to run off an ex
copy of whatever she types in
field. Then, either cut these pa
graphs or phrases into three-

seven-inch slips, or affix them to three- by seven-inch cards.

- Analyze the field into prime headings that cover it in sequence from beginning to end. Tab-divide a looseleaf book into sections that reflect your analysis. Mark the tabs in pencil to allow easy revision as experience dictates.

- Group your component cards in cardholder pages behind the appropriate section tab. Number your cards in pencil, preferably following some system of analysis. Indicate, by number, any points within the language of the cards at which names, dates, or other data must be filled in. This will facilitate dictation.

- As you use the program, rewrite and restructure the language and the grouping of the cards to attain integration with the components that precede it and follow it. Keep a supply of blank cards handy and do not hesitate to add a new component card in longhand.

Developing Larger Units of Materials

COMPOSITE TAPES

Once you have established components in punched-card form, you will find that certain combinations are reused often in your practice. It would be even more economical, then, to have your automatic typewriter punch these recurring combinations into composite tapes. This will eliminate the need to dictate individual phrases or paragraphs and to feed separate cards into the machine.

These tapes can then be used in combination with the component cards to handle a number of possibilities. For example, a particular kind of Notice of Motion could be put together on a single composite tape, except for the components indicating the court and county in which the motion is returnable. Since the court and county might vary from case to case, this material could remain on separate cards, allowing the appropriate alternative to be incorporated when needed.

PRINTED FORMS

Ultimately, you may decide it profitable to have your most frequently used documents printed up as forms. As with the composite tapes, the component cards will be used to structure them. Although the fixed language in the document will be printed, spaces will be left for inserting those language components that vary from case to case. In this way, a few component cards can be used to complete the basic, printed form.

As composite tapes and printed forms command increasing importance in your integrated system, the component cards will remain the basic building blocks, always available for the job. They may still be used to supplement tapes and forms, or as individual units to be assembled together.

PROGRAMMING LETTERWRITING

Letterwriting—our daily correspondence—is one of the most profitable areas to program.

Examine your secretary's work output and your own. Much of it is letters. Moreover, a vast majority of these are, in whole or in part, repetitive of material you have dictated before.

The trick is to organize and store the contents of your letters so that you can find what you want in a few seconds. This can be done, and done easily, by following the system described here. Once you establish it, you will be able to dictate in minutes a quantity of letters that formerly took hours.

The Basic Letter

Letters consist of three parts:

- The *heading* opens the letter. It includes the name, address, salutation to the addressee, and occasionally a case reference.

- The *body* or *message* part of the letter follows.

- The letter ends with the *complimentary close* of "Very truly yours" or whatever, and the signature phraseology.

Only the *body* or *message* part of the letter concerns us for purpo of programming.

The body of almost every lett you write fits into an area of thr by seven inches. If a letter does beyond that length, it is almo surely composed of more than o paragraph, each of which could treated as a separate component the letter.

Consequently, the approach he described will place the bodies letters onto three- by seven-in cards and store those cards into ca holder pages. Because each pa holds 10 cards in overlapping fa ion, you will be able to visuali the headings and first few lines 10 letters at a time.

Steps To Follow

Use this approach to establish program for letterwriting:

- To begin, choose one well defin field in which to program releva letters. It may be personal inju litigation, surrogate's practice, r estate, or anything else, but li yourself to one field, initially. signate a looseleaf ring book as repository for all letters relating this field.

- Compose a chronological outl of the field that you think will co the stages in it from beginning end. You may find it helpful include a few extra headings letters that do not index on a chr ological basis, such as a request telephone or come to the office. Each of the sections of your outline will be represented by a section of your looseleaf book. Pencil the headings of the categories onto the tabs of tab dividers and insert them into the ring book.

• You will find that the letters you write, within the above categories, can be grouped by the *party* to whom they are addressed. The groups will be these few:

→ Letters to your client;

→ Letters to your client's counterpart or his legal representative; if you represent a plaintiff, to the defendant or his attorney or carrier; if you represent a buyer, to the seller or his lawyer;

→ Letters to your referring attorney, if you do counsel work;

→ Letters to third parties. These may themselves break down into a few major categories—such as doctors, hospitals, court clerks, governmental agencies.

• Represent each group of addresses by a separate cardholder page within each section you have tab divided. Mark the page in pencil to indicate the addressee group whose letters the page will store.

• You now have a tentative storage system for all letters within the field.

Place the body of each letter on a three- by seven-inch card. At the top of the card, pencil in a brief single phrase description of what the letter says. Store the letter in the next available pocket of the appropriate cardholder page.

Indexing and Storage

All that is needed to work up a program for letter writing is a good index and storage approach. The one described here uses four steps to make a quick analysis and search:

• The area of practice (personal injury litigation, surrogate's, real estate, etc.) is represented by a looseleaf book.

• The categories within the field are each represented by a section of the book, indicated by a tab divider.

• Each class of person to whom the letter is addressed (client, adversary, clerk of court, etc.) is represented by a cardholder page within that section.

• The bodies of the individual letters are set up on three- by seven-inch cards inserted into the pockets of the cardholder pages, 10 to a page, in an overlapping fashion, leaving a heading and the first inch of type visible. Each card may be withdrawn to read the body of the letter in its entirety, and, if it is a punched card, to permit its insertion into the automatic typewriter.

Automatic Letterwriting

If you acquire an automatic typewriter, your staff will simply substitute the machine's three- by seven-inch cards for the originals. If there are places within the body of a letter where special material must be inserted, a "stop" code on the card will allow your secretary to type it manually.

Your secretary will now be able to produce an error-free letter in a few moments by inserting the appropriate punched cards.

- First, she will have the machine type in the correct date, probably by inserting a card onto which it has been coded.

- Next, she will insert the card bearing the name, address, and salutation, taken from the case-data cardholder page.

- The body of the letter will then be automatically typed.

- Finally, the complimentary close and signature materials will be automatically produced.

Most letters will require little, if any, manual work.

CONCLUSION

The techniques described in this article have value independent of automation. The disciplines required are as valuable as the equipment. Even if you see no possibil of acquiring an automatic ty writer, you would be wise to try t approaches for their own sake a to have another look at automat equipment in a few years.

If you sense that automatic typi may have a place in your practi you should program first and pr gram now. This will lay the fou dation for successful application automated equipment when you buy or rent it.

In any event, you must face up automation. Automatic typewrit will be commonplace tomorro operating at increasing speeds a in increasing numbers of ways. W your office be prepared to use the at all?

When equipment is available storing and retrieving case data, w your office have case data to stor Will your office have punched ca that can be stacked in hoppers automatic self-feeding? Or langua components that can be telephon out of computer storage?

You, and you alone, can prep your office for automation. Step step, with your own staff, in yo own way, at your own pace, y can begin now to structure yo materials to use the equipment the future.

With nothing more than a qua tity of three- by seven-inch ca and a method of storing them, a with persistence, patience, a enough imagination to see beyo today, you can make ready.

APPENDIX ONE

Sample Program for Notice of Motion

A1.

PLEASE TAKE NOTICE that upon

B1.

the affidavit of________(1)________sworn to on________(2)________,

B31.

a copy of the complaint served in the above entitled action,

B32.

the copy of the proposed amended complaint, hereunto annexed,

B41.

a copy of the answer served in the above entitled action,

B51.

a copy of the bill of particulars previously served herein,

B61.

a copy of the demand for a physical examination served herein,

B71.

a copy of the notice of examination before trial served herein,

B91.

a copy of a decision previously made, dated________(1)________.

B92.

a copy of the order, previously made, dated________(1)________.

B92-a.

with proof of service of said order and notice of entry thereof,

B100.

and upon the pleadings and proceedings heretofore had herein,

---

C1.

this undersigned will move this court at a motion's term thereof

C10.

the undersigned will move this court at Special Term Part———(1)—

C20.

the undersigned will move this court at Trial Term, Part———(1)—

D11. SUPREME COURT : KINGS COUNTY.

at the courthouse, at the Civic Center, Brooklyn, New York, on———
(1)———, at 9:30 o'clock in the forenoon thereof, or as soon the
after as counsel can be heard, for an order

D21. CIVIL COURT : KINGS COUNTY.

at the courthouse, at 120 Schermerhorn St., Brooklyn, N. Y., on———
(1)———, at 9:30 o'clock in the forenoon thereof, or as soon the
after as counsel can be heard, for an order

E1. OBTAIN COPY OF CLIENT'S STATEMENT.

requiring that plaintiff(s) be furnished with a copy of any and all sta
ments taken from said plaintiff(s) by the defendant(s) herein.

E2. EXAMINATION OF PLAINTIFF'S HOSPITAL RECORD.

requiring the attendance for examination before trial as a witness
the plaintiff(s) herein, of the medical records librarian of———(1)—

1. to produce thereat any and all medical records now in the p
   session, custody or control of the said witness, as may relate
   the plaintiff———(2)———,
2. to give testimony thereat as to the contents of the said recor
3. to permit an examination of the said records by the attorn
   for the said plaintiff herein, and
4. requiring that the said records be made available to the attorn
   for the said plaintiff for photocopying.

E12. CONSOLIDATE.

consolidating the above captioned matters in the———(1)———
Court,———(2)——— County.

E13. AMEND NOTICE OF CLAIM.

amending the notice of claim dated———(1)———previously serv
upon———(2)———.

E21. ASSESS DAMAGES FOR FAILURE TO APPEAR.

for an assessment of damages because of the default in appearing herein, on the part of the defendant———(1)———.

E31. AMEND COMPLAINT.

granting plaintiff(s) leave to serve the annexed proposed amended complaint in the above entitled action in lieu of the present complaint, and requiring defendant(s) herein to accept and make answer to same.

E41. ASSESS DAMAGES FOR FAILURE TO ANSWER.

for an assessment of damages because of the default in answering the complaint herein on the part of the defendant———(1)———.

E42. STRIKE DEFENSE OF NO JURISDICTION.

striking out the answer of defendant———(1)———, in so far as the answer on the part of the said defendant alleges that the court has not jurisdiction of the person of the said defendant.

E61. REQUIRING PLAINTIFF TO SUBMIT TO PHYSICAL EXAMINATION.

requiring that plaintiff———(1)———submit to a physical examination to be conducted by a physician of defendants' choice.

E71. REQUIRING EXAMINATION BEFORE TRIAL.

requiring the attendance for examination before trial of the defendant ———(1)———.

E81. TRANSFER TO HIGHER COURT.

transferring the above action from Civil Court———(1)———County, where it is presently pending, to Supreme Court———(2)———County, and also increasing the damages demanded in the complaint to $——— (3)———on behalf of the plaintiff herein,———(4)———.

E92. FIX LIENS AND INTERESTS.

fixing the liens and interests of the parties, attorneys and claimants to the proceeds of the above matter, and directing payment accordingly.

F1.

PLEASE TAKE FURTHER NOTICE that answering affidavits are to be served upon the undersigned at least five days before the return date of this motion.

Programmed Letterwriting for a Personal Injury Practice

IN a previous article in these pages, the author described a system for turning out a law firm's letters and other legal paperwork with lightning speed and a phenomenal saving of legal and secretarial time. Sternin, *How To Automate Law-Office Typing—A Step-by-Step Approach,* THE PRACTICAL LAWYER, May 1968, p. 69.

This article will now apply that basic system to the letters that a lawyer writes in a particular area of the law—personal injury litigation. Although the techniques set forth may at first seem unorthodox, by using them, you will be able to dictate any one of hundreds of letters in a few seconds. A daily routine that formerly required several hours will take only a few minutes.

After obtaining the basic raw materials—at a nominal cost—you can immediately put the system to work in all letters relating to your negligence practice. You can develop the system at your own pace, using your own letters, and with only a small commitment of time and money. You will also gain an understanding of the approach, enabling you to adapt it to other areas.

Furthermore, your programmed letterwriting system will be immediately adaptable to automatic typewriters, should you decide to acquire them in the future. However, the acquisition of such machines need not concern you now.

You will amply appreciate the benefits of the system itself, even without them.

The System

You have probably noticed that, in a given field, many of the letters you dictate are repetitious and could have been catalogued for reuse. In order to program these letters efficiently, all you really need is:

- An effective arrangement of the contents of the letters in an organized, structured way;
- A storage method that enables you to turn to any one you want immediately; and
- A numbering system that allows you to dictate each paragraph or the entire body of a letter by simply using its code designation.

This article will present a working program—a classification system for all letters written in the field of personal injury litigation, with code designations, and a storage system to hold them. The actual letters that will fill out the program, however, will be entirely yours.

The Basic Letter

Under the program, all letters are subdivided into three parts:

- The *heading,* which includes the name, address, and salutation;
- The *body,* which contains the message part of the letter; and
- The *closing,* which consists of the complimentary close ("Yours truly") and the signature phraseology.

The heading, body, and closing are treated separately. For the purpose of classification, only the body of the letter is considered. The heading is programmed only in special instances, and the closing is omitted from consideration altogether.

You will be able to send most of your letters to any number of persons in a class of potential addressees, such as any one of your clients. In the few instances in which a given letter body is usable with only one particular addressee (such as a letter to the weather bureau requesting a report) the heading and body are programmed together.

In the other instances in which a given letter body will be usable with a *class* of addressees (such as a letter to clerks of the various courts requesting the calendar status of a case) one body and several headings will be separately programmed, but stored together.

Raw Materials

The basic raw materials for recording and storing your programmed letterwriting system are the same as those described in the previous article.

Each letter component, whether a heading or a body of a letter, is placed onto a separate index card, measuring three by seven inches. You may do this yourself, by writing it out in longhand, or you may have your typist make an extra copy of the bodies of the letters you dictate.

These cards are stored in 8½- by 11-inch cardholder pages, which are made up of overlapping pockets into which the cards fit in overlapping fashion. Each cardholder page carries 10 cards, the top three-fourths of an inch of each card being visible. This permits you to put an identifying entry at the top of each card and to view the first few lines. The desired cards can easily be withdrawn, read, and then replaced. When necessary, they can be entirely rearranged.

The cardholder pages are punched along the left edge so that they may be stored in standard 8½- by 11-inch looseleaf ring binders. These books are tab divided into various sections, using the usual cardboard pages with protruding tabs. Each tab is marked to indicate the section that follows it.

COST

These materials are easily obtained and almost negligible in cost. In setting up the letterwriting system for your personal injury practice, as described in this article, you will need:

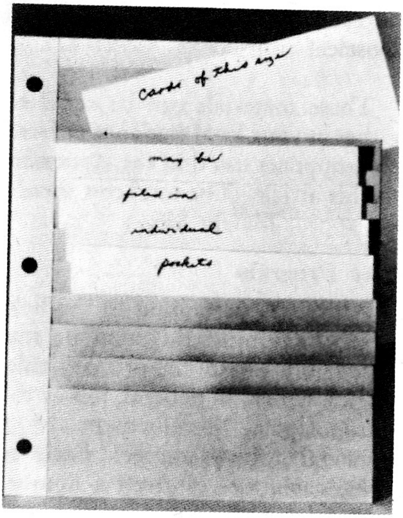


ILLUSTRATION OF A CARDHOLDER PAGE

- Four 8½- by 11-inch looseleaf ring books (at about $1.50 each). Cost $6.

- Twenty tab dividers for the looseleaf ring books (usually sold five to a packet, with four packets at 25 cents each). Cost: $1.

- Five hundred three- by seven-inch cards. These vary in cost, depending on the stiffness of the cardboard. Lightweight cards, however, are easier to type on. Cost: $3 to $4.

- Fifty cardholder pages (at about

50 cents each), punched to fit the looseleaf ring books. Cost: $25.

These materials can be obtained either at your local stationer or from the suppliers listed in the Appendix to this article. The total cost should be approximately $36.

The Program

All letters pertaining to the field of personal injury litigation are analyzed into one of 21 primary categories, which, in general, follow the chronological development of a personal injury matter. Each of these categories is given a number and brief name to identify it and is represented by a section and tab divider in one of the looseleaf books.

Each of these 21 primary categories is subdivided into three secondary divisions, based upon the class of persons to whom the letter is to be addressed. These three categories are:

- *A* Letters—to your *adversary;*
- *C* Letters—to your *client;* and
- *T* Letters—to *third parties.*

It would also be possible to add other classifications, such as *R* Letters to *referring attorneys.* But the present program will use only the three—*A*, *C*, and *T*. Each of these secondary categories is represented by a separate cardholder page.

Each letter programmed is given a numeric designation consisting o the *number* of the primary category followed by the *letter* of the sec ondary category, followed by th next consecutive open number o its page. Thus, since the category for "Bills of Particulars" is 14, al such letters that are to be sent t clients are designated 14*C*—. Th first one programmed would b 14*C*1, the next 14*C*2, and so on Letters programmed to your ad versary regarding bills of particular are numbered 14*A*1, 14*A*2, and so on.

In addition, the numeric desig nation should be followed by a bri description summarizing the letter' contents, such as "Appointment fo B/P interview," "Request to veri B/P."

Using the System

To illustrate the analysis in ope ation, assume you wanted to wri to your client concerning an a pointment for a bill of particular

First you would turn to th appropriate one of the four loos leaf binders, which will have, wri ten on their backs, the sections th contain. You would turn to the bi of particulars section as indicat by tab divider. There, you woul find an *A* cardholder page (lette to adversary), followed by a *C* car holder page (letters to client). Yo would turn to the *C* page, on whi you would see at a glance up

10 letters that go to clients regarding bills of particulars. If your system is extensive, all 10 pockets might be filled, in which event there would be a second *C* page following.

When you want to dictate a letter, turn quickly to its storage location. If such a letter has been previously programmed, you will be able to dictate it by using its reference number. If it does not exist, but one similar to it does, you will be able to see that at a glance. In that event, you can refer to the existing letter and dictate only the way in which it is to be modified.

If the letter wanted has not been programmed at all, you can dictate it in your conventional way, asking your secretary to make an extra copy of it for inclusion in your program for future use. It will be placed in the next available pocket in the cardholder page. Thus, as you use the program, you constantly expand it and improve it.

OTHER AREAS

You should be able to use this program, as presented here, for all letterwriting in the field of personal injury litigation. The approach and storage method can be adapted to letterwriting in other fields of practice by drawing an outline that analyzes and categorizes the primary sections of the area. The same secondary division, based upon the class of person to whom the letter will be addressed, should be maintained.

OUTLINE OF THE PROGRAM

Presented on the following pages is an outline of a letterwriting program for personal injury practice, showing the various categories of letters that are routinely sent during the course of litigation.

The numerical headings and their one- or two-word designations should be written on the tabs that divide your looseleaf ring books into sections.

The subdivisions *A, C,* and *T* each represent at least one cardholder page devoted exclusively to letters to adversaries, clients, or third parties, respectively. You will notice that one or more of these subdivisions are omitted under some of the main categories. This simply means that correspondence to that class of addressee will probably not be necessary in such cases, and therefore no cardholder page has been assigned.

If the letter *A, C,* or *T* appears after a primary heading, insert a cardholder page marked, "*A*—Letters to Adversary," "*C*—Letters to Client," or "*T*—Letters to Third Parties."

The parenthetical remarks in italics are simply to explain more fully and to give illustrations of what is to be included under the various headings.

Form—Outline of Letterwriting Program for Personal Injury Practice

Book One

0. Miscellaneous. *(Anything not otherwise indexed.)*
    - A. *(Letters to Adversary.)*
    - C. *(Letters to Client.)*
    - T. *(Letters to Third Parties.)*

1. Pre-acceptance. *(Correspondence prior to your commitment to acce the case. This includes nonacceptance and return of files.)*
    - C.
    - T. *(For example, inquiries to verify occurrence.)*

2. Acceptance, Retainer. *(Includes qualified acceptance, such as acknow ment of case taken for adjustment only.)*
    - C.
    - T. *(For example, a thank-you letter for recommendation.)*

3. Factual Preparations. *(Police reports, photographs, investigation.)*
    - C. *(Request for signature on authorization.)*
    - T.

4. Legal Preparations. *(Legal conditions precedent to suit. Appointme of executor, guardian ad litem, filing notice of claim, prelimina hearings, etc.)*
    - C.
    - T.

Book Two

5. Plaintiff—Personal. *(Request for husband's name, a phone numbe acknowledgment of change of address, etc.)*
    - C.

6. Defendant—Personal. *(Claim letters.)*
    - A.

7. Medical Reports.
    - A.
    - C.
    - T. *(Physicians and hospitals.)*

8. Bills. *(Or "Special Damages," if you prefer.)*
A.
C.
T.

9. Confinement, Loss of earnings. *(These are so closely associated as to warrant joint treatment. Category also includes loss of time from school.)*
A.
C.
T.

Book Three

10. Summons. *(For correspondence dealing with summons only. If correspondence deals with summons and complaint jointly, use category 12.)*
A.
T. *(Process server.)*

11. Appearance. *(For correspondence dealing with appearance only. If correspondence deals with appearance and answer jointly, use category 13. Also use this category for jurisdiction in general, including a failure to appear.)*
A.

12. Complaint. *(Or complaint with summons attached.)*
A.
C.
T.

13. Answer. *(Also, pleadings in general.)*
A.

14. Bill of Particulars.
A.
C.

15. Physical Examination. *(Includes exchange of medical reports and authorizations with adversary.)*
A.
C.

OUTLINE OF LETTERWRITING PROGRAM *(continued)*

16. Negotiations. *(Includes submitting offers to clients, but after a settlement is effected, use category 19.)*
    A.
    C.

BOOK FOUR

17. Examination before Trial, Discovery and Inspection, Interrogatories
    A.
    C.

18. Calendar Practice.
    A.
    C.
    T. *(Clerk of court, private calendar service.)*

19. Settlement or Resolution. *(Covers release and collection of proceeds Judgments and satisfactions are also included here.)*
    A.
    C.
    T.

20. Accounting, Liens. *(Covers distribution of proceeds after receipt, and dealings with lienholders.)*
    A.
    C.
    T. *(Lienholders.)*

OTHER CLASSIFICATIONS

If your practice warrants it, you may find it helpful to add these further categories:

- Motion Practice.
- Appellate Practice.
- Transfer of File to Counsel.

POINTS TO REMEMBER

In preparing the individual three by seven-inch cards, bear these points in mind:

- The body or message part of the letter is what is analyzed, categorized, and numbered in accordance with the program—nothing else.

- If a particular letter, by its nature, can be sent to one addressee only, the name and address of the addressee is programmed and stored with the letter, but the storage location and the numeric reference is governed by the content of the body of the letter.

- If a particular letter can be sent to a class of specific addressees (such as the clerks of the various courts), the names and addresses of all possible addressees are each typed on a separate three- by seven-inch card and stored with the body of the letter in the same cardholder pocket. Since the storage location and numeric reference is still determined by the body of the letter, the letter retains one—and only one—code designation.

- If a particular letter is programmed as a series of interchangeable paragraphs, the *letter* is numbered as one unit, and the various paragraphs are subnumbered. For example: 2C3, ¶ 1a; 2C3, ¶ 1b; 2C3, ¶ 2a; and so forth. Each paragraph is typed onto a separate three- by seven-inch card. These cards may be stored together in one pocket or in separate, consecutive pockets, at your option.

- If a particular letter relates to no one category (such as a letter that requests the client to "verify the enclosed———," leaving a blank to be filled in), place it in the "0" category. If you later program a particularized letter requesting the client to "verify the enclosed *complaint*," file that in category 12. A similar letter, requesting the client to "verify the *bill of particulars*," would be filed in category 14.

- If it is uncertain in which of two categories to place a letter, place it in both. If a letter seems to fall into no particular category, place it under "0."

TRANSITION TO AUTOMATIC TYPEWRITERS

If you obtain an automatic typewriter (such as the Friden Flexowriter), you will be able to take advantage of the techniques described in the author's previous article in the May 1968 issue. Your own typist can easily convert your programmed materials into punched cards or tape, which can then be used to type letters automatically.

Your typist, using the automatic machine in the same manner as an ordinary typewriter, simply copies your three- by seven-inch cards onto a label that is seven inches wide. Simultaneously, the machine code punches the edge of one of its own three- by seven-inch cards. These cards are attached to one another at the three-inch side, in accordian or fan fold, and so, no matter how long the body of the letter is, it is punched on a continuous chain of three- by seven-inch cards.

After typing the body of the letter, the typist detaches the chain of punched cards from the unused pack, folds it in accordian fashion into a single, three- by seven-inch unit, pastes the typed label on the first card, and inserts the entire unit into the appropriate slot on the cardholder page.

You then retain your original program for use in dictating, while your secretary or typist keeps the duplicate, punched set at the automatic machine.

Punched Tape

Any automatic typewriter that is capable of punching along the edge of cards will also be able to punch paper tape, one inch wide. In fact, this is probably the more common method of recording and may be preferable for long paragraphs.

If tape is used instead of or in addition to cards, it is important to store it in a way that is compatible with the three- by seven-inch format of the cardholder pages.

An easy way is to have the typist copy the paragraph onto a *five-* by seven-inch card while she is punching the tape, instead of onto the ordinary label. She then folds the card back, two inches from the bottom, and staples it closed, forming a two-inch pocket. The tape can then be folded and stored in this pocket. The card, with the tape enclosed, now measures three by seven inches and can be stored in the cardholder page, just as if i were a three- by seven-inch, edg punched card.

Magnetic-Tape System Unsuitable

Some automatic typewriters (suc as the IBM Magnetic Tape "Selec tric" Typewriter) are designed bot to record and to store numerou letters on a single reel of magneti recording tape. A "search code" i then used to locate the recorde material on the tape. *These machines are not suitable for the lette writing system described here.*

At the present time, such machines are practical for reproducin an entire letter *en masse,* but not fo programming interchangeable paragraphs or letter bodies. Furthermore, because it is impossible t label the recorded material directly, the operator must constantly refe to an elaborate log or index to locat the material.

An additional disadvantage i that the system is not internall expandable. The materials must b recorded consecutively on the ree of tape, with no gaps or overlappin permitted. Therefore, whenever yo want to modify one of your letter the new material must be *exactl* the same length as the old, or els *all* the letters on the reel must b transferred to a new reel to allow for the insertion.

Such a lack of flexibility obviously destroys the value of a programmed letterwriting system.

Questions and Answers

The following are some commonly asked questions about the use of this programmed letterwriting system:

Q. May carbon copies of letters be used instead of three- by seven-inch cards?

A. The system can be used with carbon copies of letters, but you will lose the ability to see 10 cards per page. Instead, after you have turned to your primary and then secondary classification, you will have to leaf through your letters one by one.

The use of carbon copies will also hamper the development of a multi-paragraph approach to certain letters, which is facilitated only when paragraphs are placed on individual cards. The technique of collating the names and addresses of a class of addresses to whom a given letter may be directed (such as your local hospitals) is also much better served by using cards.

To avoid spending extra time typing the cards, you might consider cutting the message part out of carbon copies of your letters into three- by seven-inch slips. Or you might ask your typist to make a carbon copy of the bodies of your letters onto three- by seven-inch cards when she types them. In that way, little extra time is devoted to programming.

If you do decide to try some storage sytem other than cards, be sure that it is internally expandable. You must be able to modify and extend your program at any internal point without forcing a major rearrangement of the other components. That is one reason why individual cards in looseleaf cardholder pages work so well. You can add further cards, cardholder pages, sections, and even books at any point within the system, as well as at the beginning and end.

Q. Is there a particular reason for using cards measuring three by seven inches? Will another size do as well?

A. The seven-inch width perfectly accommodates lines typed on standard 8½- by 11-inch letterheads, which, because of left- and right-hand margins, are usually between six and seven inches long. If another width is used, your secretary will not be able to type the material line for line, thus adding to her typing time and increasing the risk of transcription error.

A height greater than three inches usually proves unnecessary. If single spaced, a paragraph or letter body rarely exceeds three inches. Those that do may be continued on the other side of the card.

Three by seven inches is also the size of the edge-punched cards used for automatic typewriters. Therefore, you will find it easier to switch to the punched cards if you obtain such a machine. Due to the popularity of cards of this size in the computer age, a variety of filing drawers are on the market to accommodate them, should you prefer this method of storage.

Q. Should a list be kept of the letters that are programmed, giving their numeric reference and a brief description?

A. Perhaps eventually, but not at first. One of the outstanding advantages of using cards placed into cardholder pages is that the system is self-indexing. You can rearrange, add, or remove cards without requiring any corresponding change in some separate index. The ease with which additions and modifications can be made facilitates and encourages the constant further development of the program.

However, once you start keeping a separate index list, each modification made among the cards will require a corresponding entry in your index. To effect a change on an index may require retyping the page. There will be a tendency to forget about the index, and as soon as that happens, it becomes unreliable or requires constant rechecking against the program itself. Because the system is sufficiently self-indexing, you can and should postpone separate indexing to a much later time, if ever.

Q. Do you suggest making several copies of the program, one for each attorney and one for each secretary?

A. Definitely not—or at least not for many months. Develop an *original only*—not even one for you and another for your secretary.

You cannot write a program in one sitting. A good program evolves and is perfected in actual daily usage. You must maintain the freedom to make on-the-spot changes that occur to you while you are dictating from the cards.

If you have the one and only program in front of you, making additions, deletions, and modifications is a simple procedure. You just change the card in longhand, then and there. Your secretary can work from your copy of the program when you are finished dictating from it. However, if other copies exist, making a change becomes bothersome, and you will not do it.

After your program becomes more fully developed and perfected through months of use, modification, and reuse, you will perhaps reach a point where it might not hurt to duplicate it. By that time, you may be ready to duplicate while simultaneously converting to automatic typing equipment.

Q. What are some other fields that can be analyzed and programmed?

A. Letterwriting in fields of practice other than personal injury litigation can be programmed as easily.

Pleadings—complaints in particular—lend themselves to the approach. Here, undertake one limited field at a time, such as automobile complaints, premises complaints, or malpractice complaints. Do not try to program all complaints at once.

Motions practice programs well; so do infants' compromise proceedings. A programmed approach to the introductory phraseology in bills of particulars saves much dictation time. Any affidavits that can be structured on a multiple paragraph basis are good candidates.

The key is to select an item that is not overly broad, such as those enumerated above, and then to compose a sound analysis of its parts. Programming is analysis. A well-structured outline, drawn by a seasoned practitioner, is basic to a successful undertaking. Once a good overall analysis is established and a flexible storage system introduced, workable components develop easily, even if entrusted to a less experienced associate.

CONCLUSION

Senior members of the profession can make a significant contribution to the growth of younger lawyers by programming letters and other legal materials in an area of practice. A comprehensive outline of a field is a medium by which experience can be perpetuated and transmitted.

It is a schematic diagram of a job, which guides a user through it, step by step, in a logical, systematic way. It provides an overall frame of reference, into which others may place the detailed parts.

If your office has developed working programs similar to the one set forth here, you might consider sharing them with others through an article in THE PRACTICAL LAWYER. By so doing, you will be making a worthwhile contribution to the competence and efficiency of the legal profession.

Edge-Punched Cards

THE edge-punched card is an item destined to have a momentous impact on the operation of a law office, since it is the basic unit used in the automation of law-office typing.

For the firm that has decided to purchase one of the automatic typewriters that are operated by punched cards and tape, edge-punched cards produce a seemingly endless array of law-office typing jobs. This article will describe a number of these uses, so that you may judge for yourself their applicability to your practice.

It will also point out some of the advantages to using edge-punched cards in your automatic typing system as compared to other methods—such as magnetic tape.

Description of Cards

An edge-punched card measures three by seven inches. Along one of its long edges, it is punched with holes, which cover a width of one inch. The unpunched area of two by seven inches remains blank and is available for labeling or writing.

The punched holes are codes that represent letters, numerals, and the various typewriter functions, such as spacing, tabulating, and shifting cases. When the cards are fed into an automatic typewriter, they cause the machine to type the material encoded in them. Thus, the cards automatically control all the aspects of typing.

Unpunched cards are obtained from the machine's manufacturer in packages of 500. They come attached together at their three-inch side, in an accordion or fan fold. A stack of such cards is shown being fed into a typewriter in Illustration 1, on the following page.

The purpose of this arrangement is to allow the user to create units of several cards attached together, which will fold and store as a three- by seven-inch unit and which will provide a single punched unit of as long a length as is needed.

Storage Capacity

Each edge-punched card is capable of storing about one standard line of type, which is usually between six to seven inches long. Consequently, encoding a paragraph of four and a half lines will require punching along the length of about four and a half cards.

However, no card is ever cut in half. Instead, the complete five-card unit would be detached from the remaining unused pack at the end of the fifth card. The paragraph will have been punched along the seven-inch edge of a series of five cards, which will remain attached together at their three-inch edge.

To store the unit, the five cards are accordion folded into the overall three- by seven-inch size in which they were initially furnished. To use the unit, the five cards are unfolded and passed through the automatic typewriter, which reads the edge-punched holes in sequence.

Punching and Labeling

Edge-punched cards are created by the same automatic typewriter that they will later operate, so you do not need any additional equipment to punch them. The cards are punched by your own staff, and nothing needs to be sent out of the office.

Automatic typewriters come equipped with a punching device attached on the side of the machine. When this punch is turned on by the operator, everything typed on the typewriter will be recorded by making configurations of holes along the edge of the cards. This process is shown in Illustration 1.

There is nothing special that the operator has to do; she simply types in the ordinary way. She could do her typing onto mere scrap paper, if she desired. More likely, she will be typing instead onto labeling material, which she will affix onto the card after she has finished punching it.

LABELS

The blank area above the punched edge is available for labeling or for

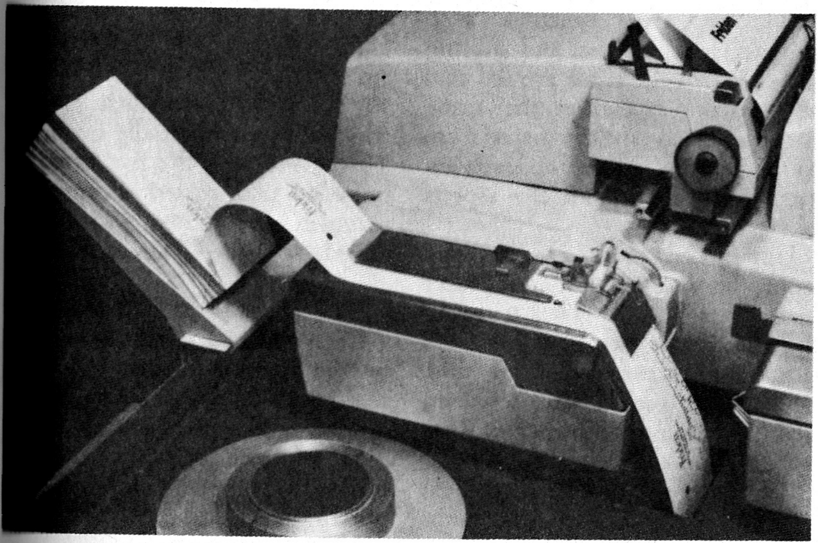


ILLUSTRATION 1: A chain of cards being punched by an automatic typewriter. The punching is done under the plastic dome at right. The small wheel near it enables the operator to turn cards back, if the correction of an error is needed.

otherwise indicating the card's contents. Although this area is two by seven inches, any labels that are used should be somewhat smaller to avoid the risk of coming too close to the punched holes or affixing the label beyond the edge of the card.

The label of the contents of the cards is generally typed simultaneously with the punching of the card or cards to which the label will be affixed. The label is usually single spaced, even when you are punching the cards to double space.

A single-spaced label will accommodate six typed lines to the inch. If you use labels one and a half inches from top to bottom, you can accommodate nine lines, which will take in almost anything you will want to punch into any one unit of cards. If the label runs longer, it will simply have to be affixed in part to the second card, which is a matter of little importance.

The label is affixed to the topmost three- by seven-inch card, and the unit is then accordion folded as previously described. You now have a unit of uniform three- by seven-inch size whose face is labeled with its contents. There is never any difficulty in knowing what the unit is and exactly what it will type.

How Cards Function

Automatic typewriters are able to sense the configuration of holes along the edge of the punched cards, and they respond by automatically typing the material that the holes represent. This function is called "reading" the card.

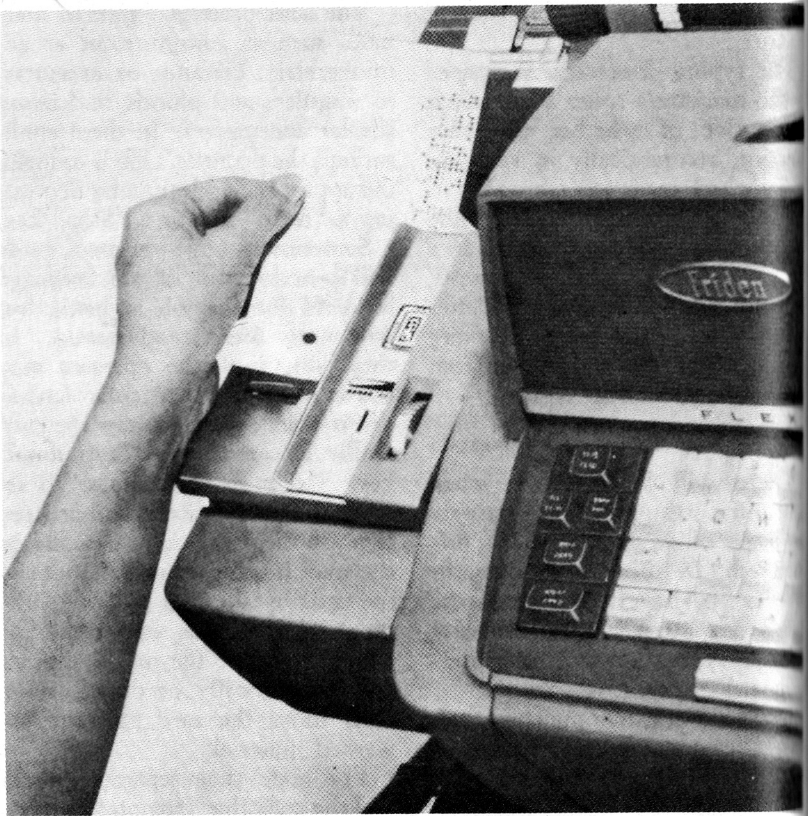
The operator's job is to place stationery or legal cap into the typewriter roller, as she would with a conventional machine, and then to place the cards into the machine in the required sequence. Insertion a card into the reader is shown Illustration 2.

She will press a switch marke "Start Read," and the machine wi then do the typing automatically.

MANUAL ENTRIES

Sometimes the operator will nee to make manual additions to th

ILLUSTRATION 2: A separate edge-punched card being placed into the read of an automatic typewriter.



material being typed automatically. For example, a name or a date may have to be inserted at some point onto the paper that is being typed. To provide for manual entries, the edge-punched card is previously coded with a "stop" code.

When the machine is reading the card, it will respond to that code by stopping the automatic reading action, and hence the typing action. The operator then makes the necessary addition by typing it on the machine's keyboard, in the routine manner.

The typing done onto the paper in the machine's roller is identical, irrespective of whether the keys function automatically in response to punched cards or manually in response to keyboard typing. The final product does not appear as a form with blanks filled in. Instead, it is an individually typed letter or document, appearing in every way identical to one resulting from conventional, manual typing.

Varying the Automated Material

There will be instances when only some paragraphs of a particular piece of work have been prepunched. In those situations, the operator will have to supplement the punched materials with extensive manual typing on the machine's keyboard.

To whatever extent punched cards exist, they are used. When not in existence, typing is done conventionally, on the same machine. There is an interplay between manual and automatic typing; one supplements the other with complete flexibility.

Edge-punched cards can be coded to skip alternative words. If the language of a paragraph calls for "his" or "hers," both words may be punched into the card. With appropriate coding, the operator may have the card read out either word, skipping the other, as the situation requires.

The same practice applies to alternates such as administrator or administratrix, executor or executrix, to singulars and plurals, and many similar alternatives. In these applications, the operator's job is to make the appropriate selection by depressing a "Read" key or a "Skip" key.

Sometimes, edge-punched cards will contain most of the language required for the job at hand, but will need some modification. In these situations, the operator may use as much of a particular card as she is able, and then stop the card reader by pressing a "Stop Read" key. She may then choose to remove the card entirely, and proceed to finish the paragraph manually, or she may be able to utilize more of the card by skipping a few of the prepunched words or lines. She either can cause the machine to do this automatically, or she can manually move the card past the unwanted material.

The code that separates words and the code that separates lines are easy to see. This ability to visualize what is on an edge-punched card is a distinct advantage over magnetic tape, which, of course, contains no markings that the eye can detect.

The operator always has complete freedom to stop the automatic typewriter at any point, simply by pressing the "Stop Read" key. She may begin automatic typing again by pressing the "Start Read" key. The work in the machine's roller is in no way affected, other than to be stopped and started again.

ADVANTAGES

Automatic Typing in General

The advantages of developing approaches to typing that utilize automatic equipment are many.

- *Speed.* An automatic typewriter types at about 160 words a minute, without let-up.

- *Error-free work.* An automatic typewriter makes no typing mistakes. When punching cards initially, there is a way of correcting any mispunches. Once done, the cards are permanently error-free.

- *Reduction of proofreading time.* Proofreading is reduced to checking to be sure the correct card was used. If the first few words of the paragraph are recognized as correct, the balance need not be read at all, except for manual additions.

- *Programmability of format.* Th particular format in which work i to lay out, such as in a court order is encoded into the tabular an spacing codes of the cards. Conse quently, less experienced help ca get work done.

- *Reliability of data.* Names, ad dresses, index and calendar num bers, descriptions, spelling—all ar reliably correct every time the car is used.

Edge-Punched Cards in Particula

Automatic typewriters availabl for law offices presently use thre media for recording material—mag netic tape, punched paper tape, an edge-punched cards. Edge-punche cards have unique advantages as method of operating an automat typewriter:

- *Random access.* Cards may b fed into the automatic typewriter i any order. No particular sequen is required, and any card can b discarded and replaced by a ne one without affecting others.

- *Unlimited programming.* The is no limit to the number of car that can be developed.

- *Identifiability.* By reading th label affixed to the card or to th uppermost of an attached series cards anyone knows exactly wh the card or series contains.

- *Code readability.* The operator can visually locate where each letter, word, sentence, and paragraph begins and ends. At times, this can be extremely helpful.

- *Markability.* Edge-punched cards can be written on. Notations can be made directly on them indicating collateral information and instructions pertinent to their operation.

- *Self-indexing.* Each edge-punched card may be marked and identified on its upper left corner or across its upper edge. No separate listing needs to be consulted to find and use them.

- *Low cost.* About one cent each.

- *Versatile storage.* Edge-punched cards may be filed in drawers, inserted in overlapping pockets in cardholder pages, stapled onto carbon copies of letters, dropped into related files, and handled in the same way as any index card.

- *Tape compatibility.* Equipment capable of punching and reading edge-punched cards will also be able to punch and read paper tape. When desired, the contents of several cards can be transferred automatically to a single paper tape, as shown in Illustration 3.

- *Flexibility of staff.* Anyone can insert cards into the machine. During periods when the regular operator is away, others can fill in with little special training.

Comparison with Magnetic Tape

In addition to the diversity of jobs in which edge-punched cards may be used, there is a great advantage in the fact that the operator of the machine need never be hesitant or in doubt about what is going to happen. At all times she is able to see exactly what language she is going to get from the machine's reader, how long it is, how wide it is, and exactly what it will say.

Assume for a moment that she is working with magnetic tape and needs to run the caption on a form. Where on the form should she begin? Is the caption long or short?

Will she start too high and end with a bizarre amount of space between the caption and the printing? Or will she start too low and find the machine still typing defendants' names over the printed material?

At the form's close, she will need to run in the name, representation, and address of the defendants' attorneys. With a magnetic tape system, she would have to refer to a "log," which might tell her, for example, that a certain reel of magnetic tape has that material at "Location Six."

She knows that she can reach it by pressing the appropriate "search" key. But how many names will be at that location? How wide will the typing run? Can she place a

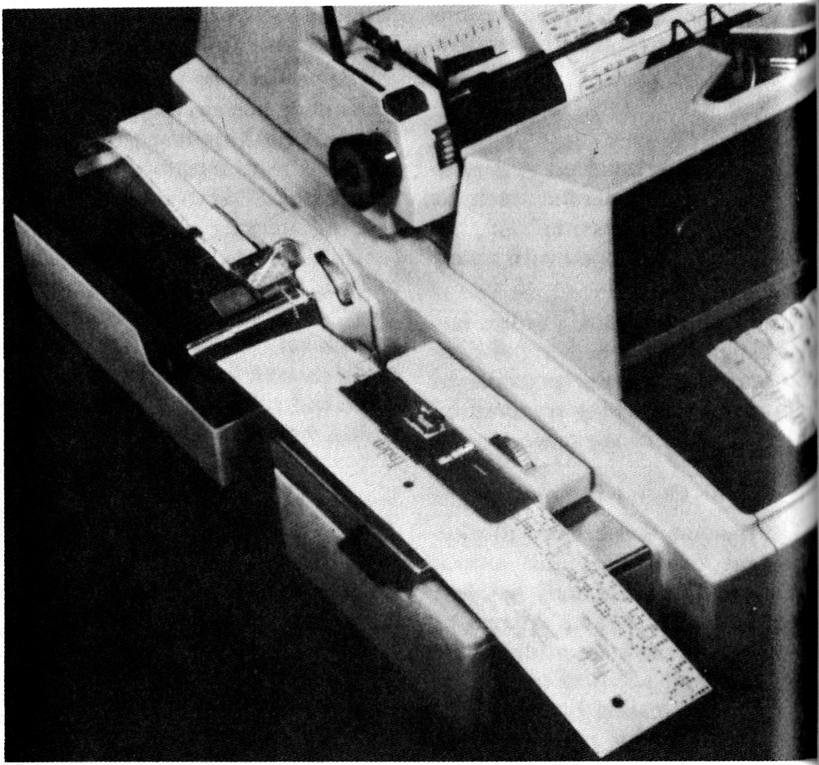


Illustration 3: Here the reader is reading a chain of edge-punched card while the punch is simultaneously transferring their contents onto a paper ta

second appearance alongside of the first, or will part of it run too far to the right?

These are important considerations for an operator. By using labeled, edge-punched cards, she can see what she is doing and is not required to work in the dark. She does not have to become familiar with a special coding system to search a magnetic tape or know the sequence or manner in which entries are held in storage.

The operator is therefore at ea with the cards, as well as with th machine itself.

The Basic System

Edge-punched cards have valu in a variety of law-office functions from the weekly payroll to the pre aration of pleadings. In order t describe some of these diverse ap plications, this article will first vie the basic automatic typing system is set up in a hypothetical modern law office.

The Machine

The machine involved is a typical automatic typewriter, such as the Friden "Flexowriter" or the Dura "Mach," equipped with a card reader and punch.

An operator, who is a typist, has been assigned to it as her full-time job. She will use the machine to produce various typing required by other members of the office.

USE BY OFFICE PERSONNEL

The machine has been in this hypothetical office now for several years, and the office staff has had time to develop various systems of edge-punched cards according to the experience and needs of each. It is important to realize that the machine serves many users, each of whom brings to it his own series of edge-punched cards capable of doing his particular job of the moment. It is somewhat like a computer, to which each user brings his own "program" of cards to have run.

Each person's system and his cards exist quite independently of the machine and may be stored, studied, reviewed, and referred to at other work stations in the office—and out of the office as well. Each staff member is in the best position to know his own needs. A system that he himself develops will probably be of more use to him than a system imposed on him by someone else.

The person who seeks to have his work done has elected to develop a punched card approach because he realizes the tremendous savings in time, ease of "dictation," and assurance of accuracy. That individual controls his own cards. He is free to add, modify, or discard any of them. The machine operator's responsibility is simply to run his cards, execute the associated instructions, and supplement with manual typing where required.

Storage of Cards

RANDOM USE

Because each edge-punched card is an individual unit, like an index card, each can be stored and used on its own, independently of any other cards. This factor underlies the cards' versatility.

If, instead of cards, you tried to store your materials on rolls of tape, you would lose that versatility. The operator would have to search forwards and backwards throughout the roll of tape, or throughout several rolls, to find the phrase or paragraph she needed.

That approach might work well with long units, and with units recorded in a sequence. But for short units and for items that must be read in random order, individual unit cards will do the job whereas a long tape will not.

CONVENIENT LOCATION

The second factor that makes cards so versatile is the flexibility of storage. Cards that do different jobs can be stored in different ways and in different places.

The operator wants certain, routinely used cards immediately available at her desk. These include the date card, the cards containing the firm's name as used to close letters and legal papers, and the names of office personnel. She may want these in a wall rack, similar to that used for time cards at a time clock.

In that way she can reach for any card needed, drop it into the machine, use it, then drop it back into the rack. She certainly is not going to affix and search a roll of tape each of the many times a day she needs those items.

Cards that contain phraseology that supplements the body of a printed form belong in the folder in which the forms are stored.

Cards that type the data of the various cases must be grouped together by the case to which they relate and stored either in the case file or in a cardholder page of a looseleaf ring book, indexed by cases.

If a document being drafted has been punched into cards, they should be stored with a copy of the draft to which they relate.

Different applications require different storage methods and locations. The right storage for each job is often critical to success or failure. Edge-punched cards may be stored in different ways and a different locations, as best suits th particular application for which they are being used.

CARDHOLDER PAGES

One of the most convenient way to store edge-punched cards is in specially designed cardholder page These are made of stiff cardboar and consist of overlapping flaps int which the cards or folded groups o cards are inserted. Because of th overlapping, the label of each card can be read at a glance, as show in Illustration 4, on the followin page.

The cardholder pages are kept i standard three-hole, looseleaf rin binders. One of the advantages o this system is its flexibility. It is internally expandable, since new pag can be added at any point.

APPLICATIONS OF CARDS IN A LAW OFFICE

The three basic areas of law offi typing in which edge-punched car have valuable applications are:

- Storing case data. Cards can b used to store names, addresses, an captions. This data can be punche and labeled as an initial step, or i can be "captured" as a byprodu of the first typing of the data on an actual letter or legal paper.

- Programming legal material (such as pleadings, affidavits, an bills of particulars).

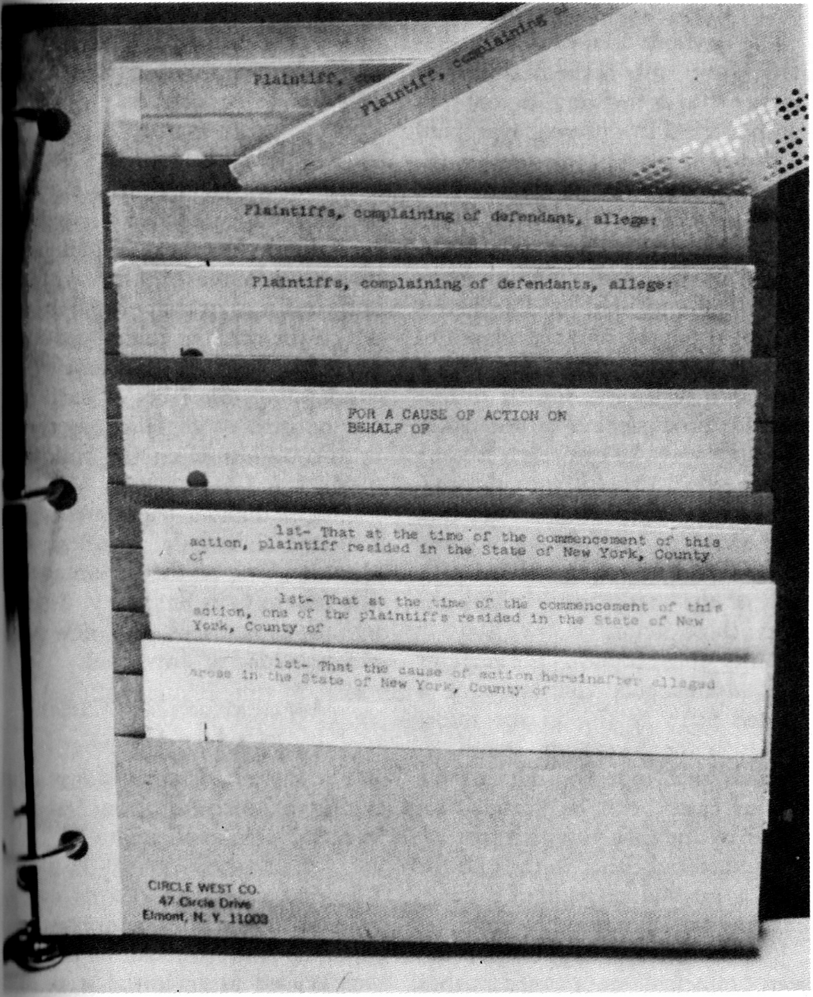

Plaintiff,
Plaintiff, complaining
Plaintiffs, complaining of defendant, allege:
Plaintiffs, complaining of defendants, allege:
FOR A CAUSE OF ACTION ON BEHALF OF
1st- That at the time of the commencement of this action, plaintiff resided in the State of New York, County of
1st- That at the time of the commencement of this action, one of the plaintiffs resided in the State of New York, County of
1st- That the cause of action hereinafter alleged arose in the State of New York, County of
CIRCLE WEST CO.
47 Circle Drive
Elmont, N. Y. 11003

ILLUSTRATION 4: Edge-punched cards being stored in a cardholder page in a looseleaf ring binder. The labels are readily visible on the cards contained in the flaps. Each cardholder page can store 10 cards in an overlapping manner, and standard tab dividers can be used to separate groups of pages into sections within the binder. Any number of pages or looseleaf books may be added, which makes the storage method extremely flexible. These cards form the beginning of a complaint in a civil action.

- Programming letterwriting.

The basic approach to these areas was set forth in the two previous articles (mentioned in the Editor's Note at the outset of this article) and need not be repeated here. However, it would be appropriate to mention the following applications of edge-punched cards in the law office.

Benefits of Programmed Documents

Multiparagraphed Approaches

When materials are programmed into interchangeable paragraphs that cover numerous situations, edge-punched cards often make it possible for the operator to produce an entire letter or document with virtually no manual typing.

Multiparagraphed approaches are possible in many legal applications. Even if local practice does permit the use of a printed form, there are many applications in which each of several paragraphs has several variations.

To print all possible combinations of paragraphs would be an unworkable approach. However, punching each paragraph into an edge-punched card series is an ideal solution. The paragraphs can be combined in any manner needed, and new ones can be punched and added whenever found to be necessary.

Repetitive Phraseology

Edge-punched cards can handle repetitive phraseology easily. With other input media, this is usually difficult or impossible.

Assume, for example, that the operator has been asked to produce a notice of motion. She has been given a dictation sheet with code numbers that refer to punched cards. She opens a looseleaf ring book, entitled "Notice of Motion," and begins.

The first instruction reads "*A*." There is an edge-punched card marked *A*, which is inserted into the machine, and which types the phrase, "Please take notice that upon . . . ."

The next instruction reads, "*B*1 Harold Hapless." The *B*1 card is used, and types the phrase, "the annexed affidavit of . . . ." The operator now manually adds the name of the affiant.

Because the position of the card in the reader, as well as the label on it, shows her that the card contains more language, she starts the reader again. The machine types "duly sworn to on . . . ." The operator now knows she must add the date of execution, which she obtains from the affidavit that is to accompany the notice.

The next instruction reads, "*B*1 Roger Rascale," and here is where the repetition comes in. The operator now *reinserts* the *B*1 card and reuses it for this second entry.

The reuse of an edge-punched card to make another entry of its material would probably go unno iced. Yet, this often needed technique is extremely difficult or impossible to accomplish when using a roll of tape. Once a phrase on tape has been read, to repeat it requires that the tape be reversed, and that the beginning of the phrase be located. Many readers simply will not operate in reverse. Even if one does, the beginning of the phrase must have been coded or marked so that the machine can find it automatically or the operator can see it visually.

Form Supplementation

Certain printed forms need to be supplemented by the addition of some materials that are chosen from among a limited group of phrases. For example, the note of issue form may require a recitation of the nature of the cause of action, the notice of examination before trial may have to set forth a brief description of who is to be examined, or the statement of readiness may have to indicate the status of preparatory steps.

The folder in which a particular printed form is kept may also store a companion cardholder page in which are inserted punched cards, each of which will type one or more of the necessary supplementary phrases. Because these cards are used to supplement a particular form, they are stored with that form. No time is lost obtaining the needed supplementary materials from a reel of tape stored elsewhere.

Assume, for example that the operator takes a number of printed forms out of the form drawer—a medical authorization form for the defendant's attorney, a note of issue form, a demand for jury, an affidavit of venue, a demand for examination before trial, and a statement of readiness. Using the case caption card, the defendant's attorney's name and address card, and the card containing today's date, she is able to complete each one of them.

Perhaps lawyers never stop to realize how many office forms can be entirely or substantially completed using those three items. Affidavits of service, backs, and envelopes may also be completed by using those three cards.

The labeling on the punched card shows the operator the exact length of the phrase, and she sees exactly how it will lay out, and in that way she judges exactly at what point on the form she should start the card typing.

Drafting Paragraphs of an Agreement

Assume that the operator is asked to type an agreement that will later be subjected to extensive negotiations. Initially, such a document will have to be dictated conventionally and typed manually, since it contains no stereotyped clauses that have been prepunched. However, although no prepunched cards are available, the automatic typewriter can still be of great value in revising the agreement during negotiation and, ultimately, in typing it into final form.

Any automatic typewriter can produce a recording of the initial typing job onto tape, either magnetic or punched paper. The operator then works with the tape to produce each revised draft of the document.

In practice, however, most documents are revised on a paragraph-by-paragraph basis. Some paragraphs will require no modification, while others may go through many redrafts until final language is agreed upon. It wastes time to revise on a page-by-page basis, particularly when pages are 14 inches long. Revision by paragraphs is much faster and enables the operator to get the revised material back into the hands of counsel with almost no lost time.

REVISION BY PARAGRAPHS

Revision by paragraphs is greatly facilitated by punching the paragraphs of the initial draft into separate punched cards. If the paragraphs of the agreement are numbered, the punched cards can be correspondingly numbered in pencil, and labeling them will not be necessary. If unnumbered, the first few words may be written to identify the cards' contents.

As the attorneys negotiate a particular paragraph of the agreement, the secretary may note any changes wanted on a draft copy of the paragraph, or in shorthand on the card itself, if she prefers. While the attorneys discuss the next paragraph the secretary inserts the punched card of the paragraph to be revised into the machine's reader and uses as much of it as she wishes to retype and repunch the paragraph as modified.

The changes wanted may be so extensive that she may elect to retype the entire paragraph manually. In either event, she ends up with the new paragraph, not only typed but punched into cards as well.

When the last paragraph of the agreement has been negotiated to conclusion, the operator has a set of cards, paragraph for paragraph perfect in every detail, that can be run onto the final paper without error, at very high speed.

Cards as a Bookkeeper's Aid

PAYMENT OF BILLS

The office bookkeeper has sent in a looseleaf ring book marked, "Bills to be paid." The cardholder pages in the book contain edge-punched cards labeled with names and addresses, and some of these pockets also contain checks, fully drawn and ready for mailing.

The operator understands, without further instruction, that the bookkeeper wants envelopes prepared for the addressees who are to receive the checks.

This particular approach was developed by the bookkeeper herself

Shortly after the machine arrived, she realized that she, too, could systematize some of her work for automatic typing. She took the initiative and did so.

PURCHASES

She also has set up punched cards in a looseleaf ring binder that she entitled "Purchases." The various suppliers from whom the firm routinely makes purchases are each assigned a cardholder page.

The first pocket of the page contains an edge-punched card that will type the vendor's name and address. The balance of the pockets contain punched cards, each ordering a specific item supplied.

PAYROLL

The bookkeeper also has developed a group of cards that facilitate her payroll recordkeeping. Since each employee's gross pay, deductions, and net pay are fixed, for the most part, she has punched those figures for each employee into a separate card.

At the end of the accounting quarter, she can have the operator type the payroll records by running these cards through the machine. Only the date of payment needs to be added, at the beginning of each line. If the volume of work warranted it, a payroll date tape could be punched to be used to feed in this information from an auxiliary reader.

Punched Cards as a Management Tool

By representing each office matter on an edge-punched card, various systems of office control may be developed. The cards can be sorted by different factors and then run through the automatic typewriter to yield lists of important information.

Assume that the managing attorney has arrived at the automatic typewriter with a filing tray. Several hundred edge punched cards are in it, divided by separators into groups. He explains their function to the operator.

INFORMATION WRITTEN ON CARDS

Each active case in the office is represented by its own punched card. When read in the automatic typewriter, it types out the file number and name of the matter. However, each card has much more information than that written on it. Each card has had printing done on it to turn it into a small form.

The printed and written materials include:

- The office file number;
- The name of the case;
- The source of the case;
- Its nature;
- The name of the staff attorney responsible for its processing;

- The date the cause of action arose;
- The court in which it is pending;
- The calendar number;
- The defendant's attorney; and
- A pencilled indication of its present status.

Preparation of Case Lists

Periodically, these cards are sorted into different categories and run through the automatic typewriter to accomplish different ends. At the end of each three-month period, the cards will be grouped according to the *attorney responsible,* and a list will be remitted to each such attorney in the firm.

At another time, the cards will be grouped by the *referring attorney* and run through to provide such attorneys with a list of their matters currently active.

During the summer months, the cards are grouped by *courts* and run, thus providing a calendar list that may be checked against court records. If the managing attorney wants the cases sorted and run by their *status,* the cards may be used for that purpose as well.

Sorting

At the present time, no equipment is available to mechanically sort the cards by their edge-punched holes. Mechanical sorting would require the use of an 80-column ke punched card—the type with ver cal rectangular holes.

However, edge-punched cards c be sorted manually by a system th uses notches in a series of hol in the unpunched edges of the car The cards are stacked on edge, an a long needle is passed throu the appropriate hole and th raised. The unnotched cards a lifted out, while the notched on stay behind.

This system is called "Keysor Further information can be o tained from the source listed in th Appendix to this article.

Preparing for Automation

Many firms have recognized th tremendous potential of automa typewriters and are beginning utilize them. Some of these offi simply take the plunge and bu one. Others may prefer to system tize their materials first.

There may be some advanta to buying first and then underta ing to program the materials f it. The very existence of the m chine in the office stimulates inter in its capacities and encourages p sonnel to develop programs to u them.

On the other hand, during th months when programs are evol ing, the machine will receive lim ited use. The equipment represen an investment of money that proprietor likes to see idle. Unl the work of the office already exi in a well organized, structured form beforehand, there will be a period of anxiety as to whether the approach will ever really work.

Programming Materials in Advance

However, there is a way to program your materials in advance—to see how the system is adaptable to your practice—before purchasing any automatic typewriting equipment. This method was described in detail in Sternin, *How to Automate Law-Office Typing—A Step-by-Step Approach,* THE PRACTICAL LAWYER, May 1968, p. 69.

This approach entails typing office materials onto blank three- by seven-inch cards, which are then stored as if they were edge-punched cards. Office personnel develop systems of cards, which they then use, modify, and improve in daily practice.

The office staff will have many of the advantages of a systems approach. The only difference will be that their "dictation" is typed manually.

When a large number of these card systems are perfected, an automatic typewriter is purchased. The office will then transfer the contents of the existing cards onto edge-punched cards. The unpunched cards may be retained to be used as the set from which dictation is done.

The advantages of this "dry run first" approach are considerable. There is no initial large cash outlay for a machine whose applicability to your practice may still be in doubt. More important, if your staff does develop workable systems on the unpunched cards, conversion to automatic typing is quick and an assured success when the automatic typewriter arrives.

Punched Paper Tape

IN a previous article, the author described a variety of law-office applications using edge-punched cards to operate automatic typewriters. *Edge-Punched Cards—The Input Unit for Automatic Typing,* THE PRACTICAL LAWYER, April 1969, p. 48. The present article will discuss some of the uses of another input medium—punched paper tape.

There are several varieties of automatic typewriters in use today. Each is basically a standard electric typewriter that also has the capacity to record whatever is typed on it—whether by punched paper tape, three- by seven-inch edge-punched cards, or magnetic recording tape—and then to retype the material automatically.

The machine described in this article is one that can use both punched paper tape and edge-punched cards (such as Model 2340, manufactured by the Friden Division of the Singer Company).

To record the typed material, the blank tape or cards are fed through a unit called the "punch," which is a part of the machine attached at the side of the typewriter. To operate the machine automatically, the punched tape or cards are run through another unit, the "reader," which senses the codes that have been punched in the tape or cards. The machine then types the material at great speed, without pause and without error.

DESCRIPTION OF PAPER TAPE

Punched paper tape measures one inch in width. It is supplied in rolls eight inches in diameter and is also available prefolded and flat. It is the least expensive of all input media. Compared to the savings it makes possible, its cost is indeed negligible.

The automatic typewriter punches combinations of up to eight holes across the width of the tape. These combinations of holes are codes representing letters of the alphabet, numerals, characters, and typewriter functions (such as tabulation, returning the carriage, and shifting into upper and lower case).

Each line of holes across the tape represents one distinct letter, numeral, character, or function. There are enough codes available for all of these, since eight holes form 256 possible combinations.

After the automatic typewriter punches the codes in the tape, the punched tape is torn from the remaining unpunched roll. At a later time, the same machine will "read" the tape and respond to the punched codes by retyping the material encoded in it, at high speed, without error or pause.

Combined Tape-Card Approach

Tape and cards both have advantages and each has its own place in automated applications. The choice depends primarily on the length of the unit that is to be punched.

Short items handle best as cards. These include the day's date, name and addresses, and short paragraph Long items store more easily o punched tape. These include length paragraphs and pages of material

The cards measure three by seve inches and are attached together i a fan fold at their three-inch end The one-inch track of holes run along the edge of the cards, leavin the other two inches available fo labeling. The machine punches an reads these cards in the same wa it does tapes.

Aside from the considerations o ease of handling, storage, and co (cards are more expensive), the is no reason why any materia punched into tape could not hav been punched into cards, and vi versa.

All machines capable of handlin edge-punched cards can hand tape, but *the converse is not tru* There are many machines design to handle tape only. Consequentl if you plan to get an automatic typ writer, you must specify card-handling capacity if you want it. Fo law office use, card-handling capa ity is very important.

Nothing special has to be do to the machine to have it go fro punching tape to punching card It is simply a matter of which th operator inserts into the punc The same holds true of the readin operation.

Applications to a Law Practic

There are three primary uses o

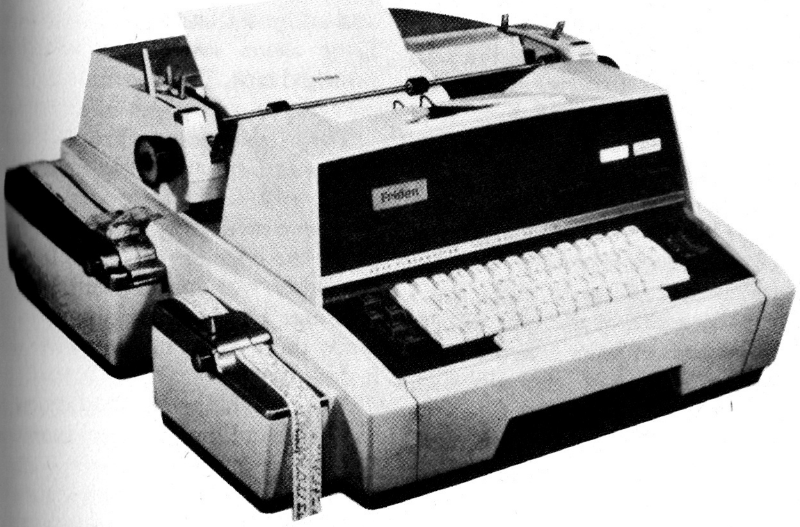


ILLUSTRATION 1: The Friden 2340 Document Revision machine, capable of automatically adjusting the right margin. The device at the left front is the tape reader, and the device to the rear is the punch.

paper tape in a law office—any one of which might be worth the initial cost of installing automatic typewriters. These important applications, which will be described in detail later in the article, are:

- Revisionary typing;
- Punched legal forms; and
- Storage and reproduction of case data.

However, to appreciate the efficiency of the systems described, it first is a good idea to understand the various interchangeable ways in which paper tape and edge-punched cards can be stored.

TAPE STORAGE

A convenient way to store punched tapes is important to the successful application of automatic typing equipment. The methods used must enable you to organize the materials contained on the tapes, to know just what language each tape contains, and to retrieve them quickly as they are needed.

The three devices described below are inexpensive and entirely workable, and can be either made by your staff or obtained from suppliers. These devices are:

- 8½- by 11-inch tapeholder pages;
- Three- by seven-inch tapeholder cards; and
- 8½- by 11-inch cardholder pages.

In addition, the tapeholder and cardholder pages may be three-hole punched for storage in standard looseleaf ring binders.

Large Tapeholder Pages

An 8½- by 11-inch tapeholder page is a cardboard of that size. Under its right edge it has a channel or pocket about two inches wide. Punched tape is folded and inserted into it.

At its left edge, the tapeholder has a lip of cardboard about one inch wide, folded up and over. Its function is to hold the 8½- by 11-inch sheet of paper that contains the copy of whatever has been punched into the tape. The sheet is slipped under the lip and clipped or stapled in place.

The channel on the right can accommodate a considerable length of tape, and, if necessary, more than one sheet of paper can be used and stored under the left lip.

This method has the advantage of keeping the tape and copy physically together. The tapeholder can be remitted to the attorney who dictated the material it contains. The copy can be written upon and returned to the machine operator for modification, or the unit can be put aside or filed for later consideration. It can be clipped to related documents and to other tapeholders.

When the tapeholder and its contents are returned to the machine operator, she can see what it is just by looking at it. Unlike magnetic tape, which is encased in a special reel or cassette, there is no need for the operator to have indexed the material or to refer to a particular reel of tape. When she initially typed it, there was no need for her to have coded where on a reel this particular unit began, and there is now no need to have the machine search a reel to find it.

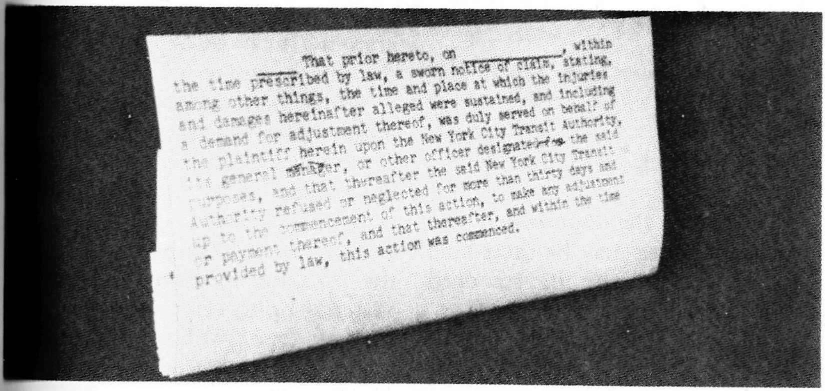
Since no typing is done onto the tapeholder itself, it is reusable indefinitely.

Tapeholder Cards

For shorter units of tape—for example, those of paragraph length—three- by seven-inch tapeholder cards may be more appropriate.

In this case, you would start with a standard, *five- by seven-inch* index card. (The exact dimensions are important.) The typing is done onto the card itself, running across its seven-inch width. Since typed lines run between six and 6½ inches, seven inches is an ideal size.

When the paragraph is fully typed, the card is folded up two inches along its bottom. The resulting unit will therefore be three by seven inches in overall size, with a two- by seven-inch channel at the bottom.



That prior hereto, on ____________, within
the time prescribed by law, a sworn notice of claim, stating,
among other things, the time and place at which the injuries
and damages hereinafter alleged were sustained, and including
a demand for adjustment thereof, was duly served on behalf of
the plaintiff herein upon the New York City Transit Authority,
the general manager, or other officer designated for the said
purposes, and that thereafter the said New York City Transit
Authority refused or neglected for more than thirty days and
up to the commencement of this action, to make any adjustment
or payment thereof, and that thereafter, and within the time
provided by law, this action was commenced.

ILLUSTRATION 2: A three- by seven-inch tapeholder card. It is simply a five- by seven-inch index card on which one edge has been folded and stapled to form a two- by seven-inch holder.

The channel is stapled closed, using an ordinary desk stapler. The tape of the paragraph is folded and enclosed in the channel.

STORAGE WITH CARDS

Because the final size of the folded, tapeholder card is the same as an edge-punched card, both of these units can be stored in the same way and treated interchangeably.

The difference between using edge-punched card units and three- by seven-inch tapeholders are these:

- In preparing tapeholders, the typing is done onto the holder itself and the related tape inserted into it. Here, the typing can go down to the very bottom of the holder. In preparing edge-punched cards, typing is done onto a label, while the related card is simultaneously punched. The length of the typed material is limited to the size of the label, which is about 6½ by 1½ inches.

- When reading edge-punched cards, the card unit itself passes through the reader. In using tape holders, the tape must be removed from the holder and put back into it afterward.

Cardholder Pages

A cardholder page is a cardboard measuring 8½ by 11 inches. It contains 10 overlapping pockets, each designed to hold an edge-punched card unit or a three- by seven-inch tapeholder card. The top three-quarter inch of each card protrudes above the pocket, exposing the first few lines and any numeric or descriptive indexing entries typed at the top of the card.

By using cardholder pages, both edge-punched cards and three- by seven-inch tapeholder cards may be stored in any order wanted. The cards are simply slipped into the pockets of the cardholder pages. Because they are not attached in any way, they can be easily removed for use in the automatic typewriter.

Generally, short items such as phrases or three- or four-line paragraphs are placed on edge-punched cards. Items of intermediate length, such as long paragraphs, use paper tape stored in tapeholders. Items of longer length—such as combinations of paragraphs used together or entire pages—are stored in the 8½- by 11-inch tapeholder pages, of the type referred to previously.

Looseleaf Binders

Both the cardholder pages and the 8½- by 11-inch tapeholder pages can be stored together in standard, three-ring, looseleaf binders. These enable you to formulate and store any number of systems you may care to design.

REVISIONARY TYPING

One of the most important applications of paper tape is its use in an automatic typewriter to aid you in the revision of documents. A tape is punched during the initial typing of the document. In subsequent drafts, only the revised portions need to be typed manually and proofread anew.

The typing of the initial original and carbon copies is done substantially in the conventional way. Before beginning her typing, the operator simply turns on the machine's punch so that everything typed will also be recorded. The operator may have to make slight modifications in her typing technique, depending on the model machine acquired, but these are minor and do not affect the appearance of the typed material.

When typing the initial draft and its tape, there might be some opportunity to save on manual typing by using prepunched material for certain portions. For example, in preparing a letter, the operator may read in the date and closing from a prepunched card or tape. This is possible, since both the reader and punch can be in operation at the same time.

Storage of Tapes Pending Approval

After the initial draft has been typed and its tape punched, both the tape and the typed copy are kept together in a large tapeholder page and returned to the lawyer. Certain variations in this procedure may be appropriate, depending on the kind of written material involved.

LETTERS

When the material is a routine piece of correspondence, the operator will use an 8½- by 11-inch tape holder page for storage. She will fold the tape and place it into the two-inch channel.

The original letter, its carbon copy, its envelope, and any enclosures are slipped under the left lip and clipped into place. The entire unit is remitted to the attorney for approval and signature.

If signed without change, the unit is turned to the operator or some other individual for enclosure and mailing. The tape is discarded and the holder is reused. If changes are required, the unit is returned to the operator with the changes written on the typed copy.

The operator will use the tape to have the machine retype the unchanged portions of the letter automatically, and she will make the changes by manually typing in new material and skipping unwanted portions, as necessary.

Of course, she may also repunch the letter and in that way repeat the entire procedure as many times as required. The prior letter and its tape would be immediately discarded and the new one and its tape placed into the tapeholder.

Wills and Agreements

Basically the same approach is used to type, punch, and store wills, agreements, and similar items. However, since these are customarily typed onto 8½- by 14-inch paper, a tapeholder of that size will be used.

Unlike a letter, which is generally disposed of on the day it is written, wills, contracts, and the like usually remain in draft form for some time. The legal-size tapeholder page, with the tape in its right channel and the typed copy clipped or stapled under the left lip, may be easily filed in the folder to which it relates.

The ease with which punched paper tape can be stored and filed is one of its advantages over magnetic tape as an input medium. Magnetic tape, which is permanently encased in a special cassette, presents an awkward filing problem.

Furthermore, magnetic tape storage can be expensive. If a considerable amount of work is pending in draft for any period of time, a large inventory of cassettes must be maintained.

Briefs

The storage of briefs and other materials that undergo extensive development may also be handled by using tapeholder pages.

Here, the various parts of the item being prepared will probably develop at different times, and certain parts will require much more revisionary work than others. Consequently, you will find it more convenient to divide the material into short subunits and to store each in a separate tapeholder.

For example, subunits could include one for each case abstracted and cited, each portion of testimony quoted, and each line of argument developed. In that way, the operator can revise only those sections needing it, without having to rerun entire pages.

It may also be convenient to keep the tapeholders in a looseleaf ring binder, where they will remain in sequence, be freely rearrangeable, can be tab indexed if wanted, and expanded into several books if necessary. Tapeholder pages are punched to fit standard 8½- by 11-inch ring binders to permit that type of storage.

After the brief has been completed, you may want to save the tapes of the cited cases. There is no extra cost or work to do so if punched paper tape is used. The cost of doing so with magnetic tape is prohibitive.

Revising Material

Revisions by the attorney are written on the original typed copy in the usual manner—by drawing lines through unwanted language and interlineating material to be added. The operator then uses the punched tape to retype the unchanged material, and she adds any new material manually from the machine's keyboard.

She will also utilize the machine's ability to "skip," in order to bypass unwanted language. If it is possible that further changes will be made, the operator may punch a new tape to record the revised material so the revision process can be repeated later.

By depressing an appropriate control switch, the operator can have the reader read a single character and then stop, enabling her to operate the machine letter by letter. Another switch causes the reader to read word by word. It can also read line by line or sentence by sentence, stopping after each.

The same controls can be operated in conjunction with the "skip" key, causing the reader to skip certain material and then stop. In that way, the operator can skip characters, words, lines, or sentences.

In addition to automatic ways of bypassing punched material, the operator may sometimes employ visual techniques just as easily. This is because, unlike magnetic tape, the coding on punched paper tape can be seen. The code for spaces between words is easily recognized.

A knob on the reader enables the operator to move a tape manually to any point she wishes—backward as well as forward. In addition to counting the number of words she has passed, the operator can determine exactly what characters are at the reading point by consulting a chart that shows what each code represents. This approach is particularly helpful when material has been skipped.

Adjusting the Right Margin

When material is added to or deleted from a line of typed copy, the length of the line may be drastically

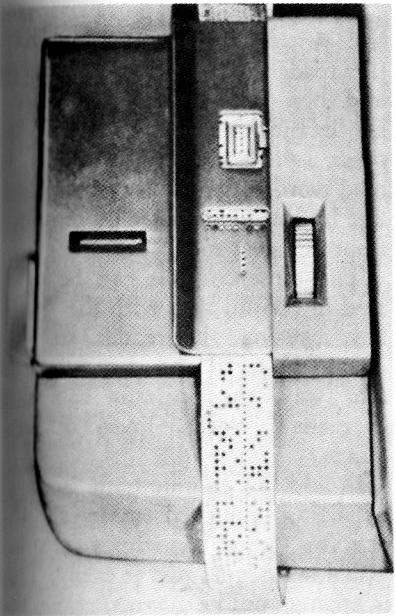


ILLUSTRATION 3: A tape being sensed or "read" in the machine's reader.

changed. To make sure that each line in the revised document will be approximately the same length, automatic typewriters designed for document revision (such as the Friden 2340) provide for automatic adjustment of the right margin. After the typed line reaches a certain length, at the next appropriate point the carriage is automatically returned and a new line is started.

Actually, there are two different ways in which the machine can return the carriage. One is in response to a specific "carriage return" code that is punched into the tape or card. This is used whenever the location of carriage return point is certain (as in the name, address, and salutation of a letter or at the end of a paragraph).

The method used in adjusting the right margin is a bit more sophisticated. First, the left margin is permanently fixed, and the right margin is then fixed at a point six to 6½ inches to the right of it. When the typing reaches that point, it enters a "carriage-return zone." The next time it comes to a space (that is, the end of a word), the typewriter will automatically return the carriage.

HYPHENATION

Long words, of course, may have to be hyphenated at the end of a line. This problem is handled in a similar way. The machine uses two kinds of hyphens: the permanent kind, as found in the word "brother-in-law," and one that is used only when a word is broken at the end of a line. Each has its own key on the keyboard and its own punched code.

The permanent hyphen is treated the same as an ordinary letter in a word. It is always typed, regardless of where it appears in a line. The only difference is that, after it is typed within the carriage-return zone, the typewriter will immediately start a new line.

The end-of-the-line hyphen has a more ghostly quality; although it is always recorded on the punched tape, it is never actually typed unless the typewriter is in the carriage-return zone. When it is sensed at that point, the hyphen is typed and the typewriter then starts a new line.

When, because of additions or deletions in the revised material, the hyphenated word does not fall within the carriage-return zone, the hyphen drops out of the typed copy and the word appears solid. If necesssary, the operator can insert end-of-the-line hyphens at other places while retyping the revised material.

Advantages

By using an automatic typewriter, revisions can be returned to you much faster than ever before possible, while the job is fresh in your mind or the client is still at the office. Equally important is the time saved in proofreading, since this chore is unnecessary except for new or revised material.

Don't underestimate the importance of sparing your secretary the routine of recopying paperwork. A legal secretary is a highly competent individual whose talents can be better employed. Not only does the automatic typewriter make more efficient use of her time—the operation of its "skip" and "read" controls can even be a pleasantly challenging experience.

PUNCHED FORMS

Legal forms are, of course, nothing new to the profession. However, the automatic typewriter has made possible a kind of "form" that is nothing short of revolutionary. This is the second important application of paper tape.

Standard form paragraphs, groups of paragraphs, or entire pages are punched on paper tape and stored for future use. Whenever variable language is needed (such as names and dates), a special "stop" code stops the machine and allows the operator to insert the entry manually.

Punched forms may also include shorter units of language on edge-punched cards, which may be used in combination with paper tapes. The cards and tapes can be stored in looseleaf ring binders—which allow for future expansion and can be labeled and tab divided for quick location of any form when it is needed.

Flexibility

This system offers tremendous flexibility in its application, as illustrated by the following features:

- *Random access.* Because the various cards and tapes are separate units, they may be used in any order.

- *"Stop" coding.* Provision can be made for adding of variable material at any point simply by punching a "stop" code.

- *Skipping.* The machine's ability to "skip" allows you to punch al ternative words and phrases (for example, "he" and "she") and then to omit those not applicable. More importantly, this feature permits you to modify existing cards and tapes by automatically skipping whatever portions are inappropriate and adding new language manually.

- *Automatic revision.* Whenever manual modifications must be made to an existing form, you can record the entire operation on a new tape—which will provide you with a revised form for future use with no additional effort.

- *Composite tapes.* After a while, you may notice that certain units of language are commonly used together. These units can be repunched automatically into composite tapes, which can be used with even greater convenience and speed.

Importance to Firm

The development of systems of punched forms has tremendous productive potential for a law firm. Clearly, the work will be typed faster than ever before possible. However, there are other significant advantages with regard to the legal work performed.

A great deal more work can be delegated to others. As the content of the paragraphs becomes settled upon, the job of dictation becomes increasingly one of *selection* as opposed to *composition*. Secretaries can be relied upon to choose appropriate letters; juniors and associates can be expected to put together adequate legal materials.

The experience of the members of the firm is accumulated in the punched units and is in this way perpetuated and transmitted. As new situations arise, further tapes and cards are created and become permanent and valuable additions to the system. Thus, each job the office does may provide the bonus of a capital improvement to the office system.

CASE DATA

Each matter currently active in an office has attendant to it several items of data that are retyped repeatedly. Attorneys are often unaware of how much stenographic time is consumed in typing names and addresses of parties and attorneys, caption boxes with their attendant index and calendar numbers, and other routine information.

Consider for a moment just the caption of a matter and the name and address of opposing counsel. Almost every document relating to the case will require both of these. In addition, the back of the document will need the former and the envelope and affidavit of mailing the latter. This data will be typed at least five times—six, if a covering letter is enclosed.

Your client's name and address is another example. Every time you write to him it must appear both on the letter and on the envelope.

The manual typing of case data is by far the slowest part of typing a document. A typist simply cannot produce this material at the same rate of speed as straight English. Furthermore, it is here that errors are more likely to occur, least likely to be noticed, and most likely to cause trouble.

Automatic Typing of Data

Unlike a typist, an automatic typewriter can produce case data with the same speed and accuracy as it does ordinary language. Once recorded in punched form, the same item of data can be typed automatically whenever needed. When only part of the data is required for a certain purpose, the machine's ability to read line by line makes it easy to type certain portions and to omit others.

All items of case data may be punched into tapes and stored in three- by seven-inch tapeholders. However, you may find it more convenient to place names and addresses and dates and locations on edge-punched cards. Captions, on the other hand, are best punched and stored as tape, since they do not fit well on the labels of edge-punched cards.

Both the tapes in three- by seven-inch tapeholders and the labeled edge-punched cards may be stored together in the pockets of a cardholder page assigned to the case. Because the items of case data will usually be punched at different times—as they become known—it is important that the operator be able to punch and store each unit separately. The cardholder page accommodates this need.

Although the cardholder page could be kept with the main file of the matter, you will probably find it easier to keep it in a loose-leaf ring book at the machine. This saves the operator the job of obtaining and returning the file and permits paperwork to continue even when the file is being used elsewhere.

Other Uses of Tape

Besides the three primary uses of punched paper tape, this medium offers the bonus of some unusual applications that might prove valuable in many offices. The following are four examples.

Lists

Punched tape offers a simple way to maintain and update various lists that your office might find helpful to have. These could include a list of office matters pending, calendar lists, lists of cases pending with particular insurance carriers, lists of telephone numbers, and so forth.

Since each entry would generally be on a single line, revision is extremely simple. By depressing the appropriate key, the operator can have the automatic typewriter read, type, and repunch, or skip and not type or repunch the various lines, while automatically transferring the list to new sheets and a new tape.

Tape Loops

Tape can be glued into a loop to cause the typewriter to send out the same letter an unlimited number of times. A list of addressees can be automatically read in from a cable-connected auxiliary reader.

Fan-folded stationery may be employed, in which the bottom of one letter is connected by perforation to the top of the next. In this way, the machine could turn out many successive letters without the need of an operator.

Automatic Byproduct Tapes

At the same time you are using punched tapes and cards to operate the typewriter, an additional paper tape can be punched automatically to record specific portions of what is typed. All you need to do is to code the original tapes and cards so that they will turn the punch on and off automatically at the appropriate times.

This is accomplished by using a "punch on" code and a "punch off" code. When sensed by the reader, they will turn the punching device on and off, causing the material appearing between the two codes to be recorded on the byproduct tape for later use.

For example, you may wish to establish a routine that will produce a list of all prepunched letters that are being sent out on the machine. You would merely punch a "punch on" code in front of some word or group of words in the body of the letter that will identify it to you and an "off" code at the close of the phrase. Whenever the card or tape of the letter is read in the reader, the punch will automatically go on before the identifying phrase and off afterward.

At the close of the day, the byproduct tape is available to type out a list of the various letters that have been produced. This list may form the basis for billing, follow-up, or general managerial control.

Printing and Typesetting

In some instances, paper tape may help to reduce costs when a brief or other material has to be set in type or printed by other methods. After the material is revised and in satisfactory form, the final tape can be the basis for the reproductive process.

When the printing of a brief is required, many printers can use the tape to set the type automatically. If the reproductive technique requires the cutting of a stencil or typing onto specially treated paper or with a special ribbon, your automatic typewriter can do that part of the job.

If your office does any significant amount of reproduction, this area of potential savings should be explored.

Law-Office Typing with the IBM MT/ST

by LOUIS C. ALLEN, JR.

A SERIES of articles on the automation of law-office typing would not be complete without a discussion of the IBM Magnetic Tape "Selectric" Typewriter—commonly known as the "MT/ST." This machine, which is one of several varieties of automatic typewriters available, has come into wide use in law offices across the country—particularly in the larger firms.

In four recent articles, Bernard Sternin, of the Brooklyn, New York Bar, has described a basic approach to automatic typing and programmed legal materials—making use of a Friden automatic typewriter that is operated by edge-punched cards and punched paper tape. *See, e.g.,* Sternin, *How to Automate Law-Office Typing—A Step-by-Step Approach,* THE PRACTICAL LAWYER, May 1968, p. 69, and other articles listed in the Editor's Note below.

In the MT/ST, the codes that operate the typewriter automatically are not stored as punched holes on cards or paper tape, but rather as electromagnetic signals on reels of magnetic tape, permanently sealed in plastic cartridges. Because of the different medium used, the MT/ST has both advantages and limitations compared to the other machines, and therefore its applications in the law firm are somewhat different.

This article will describe some of the applications of the MT/ST in a small or medium-sized law firm—based on more than a year's experience with the machine in the author's three-man firm, and upon discussions with members of other firms where the machine is in use.

DESCRIPTION OF THE MACHINE

The typewriter portion of the MT/ST is the regular IBM "Selectric" Typewriter. This, as you probably know, is an electric typewriter in which the type characters are contained on a revolving "ball," rather than the usual swinging keys. The type-balls are interchangeable, making possible a variety of type faces.

The typewriter is fixed to a special desk, which comes with the installation and has drawers for tape storage and a stand for holding copy.

Tape Console

To the right of the typewriter and desk, standing as a separate unit, is the "Tape Console." The typewriter and console are shown in use in Illustration 1.

The Tape Console contains:

- An "Operation Selector Dial," which controls the basic functions of the machine (record, playback, transfer, and adjust);

- A "Reference Number Dial," which allows you to select the portion of the tape that you want to use, as determined by the "Reference Number" assigned to it;

- A "Playback Mode Dial," which determines the manner in which the recorded typing is played back (that is—automatically, line-by-line, word-by-word, or character-by-character); and

- A small keyboard with 15 code buttons, arranged strategically in two rows, which allow various operational codes to be entered onto the tape.

TAPE STATIONS

Depending on the model of the machine in use, the Tape Console

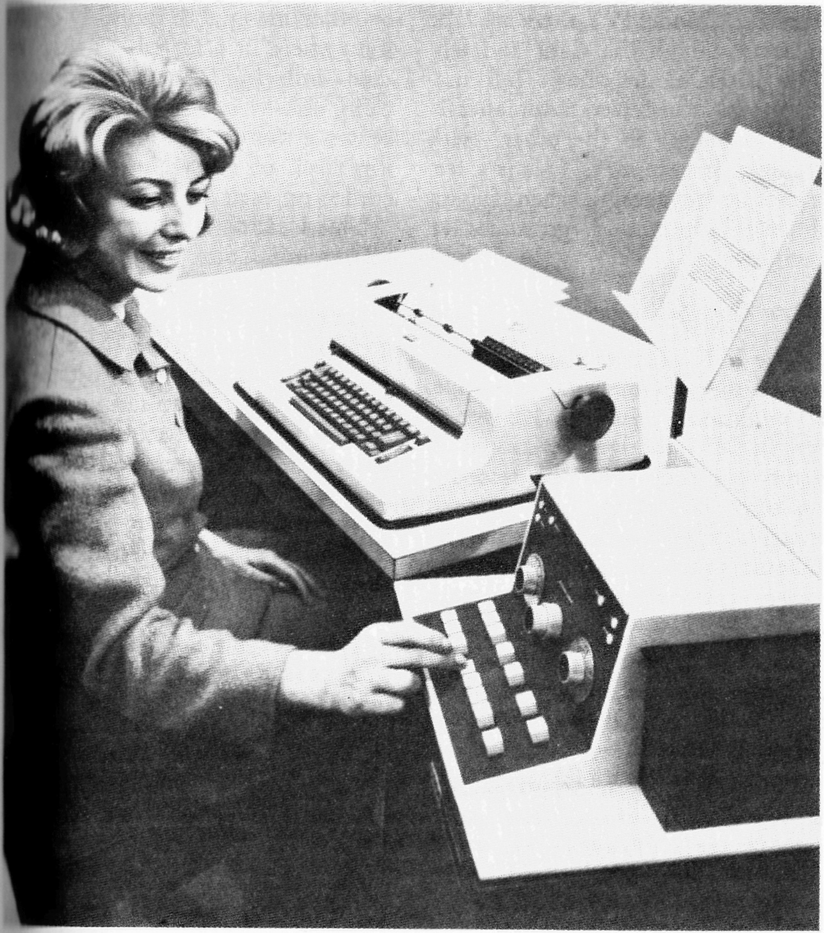


ILLUSTRATION 1. The IBM MT/ST automatic typewriter in use, showing the Tape Console being operated in the foreground. The "Selectric" typing unit is attached to its own special desk, which contains storage drawers and a stand for holding copy.

will have either one or two "tape stations." The tape cartridge is snapped into place and feeds automatically into the machine. The operator never needs to touch the tape itself, and there is no danger of it accidently becoming unreeled.

On the one-tape machine (Model II), the tape station is on the right side of the console; on the two-tape machine (Model IV), there are tape stations at both the right and left. The latter model allows information to be transferred automatically from one tape to the other—with changes, if necessary. This is a tremendous advantage when typing drafts that must undergo successive revisions.

Tape Capabilities

The MT/ST uses a specially designed nine-channel magnetic tape, 16 millimeters wide and 100 feet in length per cartridge. Twenty characters (or codes) can be recorded on each inch of tape, or approximately 24,000 on each reel. The manufacturer's handbook estimates this to equal about 10 average pages of typing.

When the tape is played back, the printout speed is 15½ characters per second, or a net typing speed of 130 to 150 words per minute.

The initial cost of magnetic tape is considerably greater than paper tape or cards (about $20 per reel). However, it can be reused indefinitely, simply by recording new material over (and automatically erasing) the old.

REFERENCE CODES

A major difference between the use of magnetic tape and punched cards or tape is that each unit of recorded material cannot be directly labeled. Since the recorded paragraph, form letter, contract draft, or other material is invisibly coded somewhere in a sealed cartridge of tape—indistinguishable from everything else—it is necessary that there be some numerical system of keeping track of everything that is recorded on each tape.

This location is made possible by "Reference Codes" that are coded into the tape at the beginning of each separate item. Reference Codes are assigned at intervals throughout a given document to facilitate retrieval without necessitating playout of the complete document. These Reference Codes are numbered and may be noted on the rough draft copy at the appropriate places. The operator's "log" notes the Reference Code numbers covering a complete document.

To locate an item, the operator turns the Reference Number Dial to the number desired and presses the "search" button. The machine then *counts* the number of reference codes contained on the tape until it reaches that number. As many as 79 Reference Codes may be searched on one tape.

The Reference Codes are *not* individual numbers encoded on the tape. Every Reference Code is, on the contrary, exactly the same. In searching for an item, the machine simply counts how many of these identical codes it has passed. Thus if the machine has to search for an item *preceding* the one it just taped it must return to the beginning of the tape and start counting again.

The time required to count Reference Codes from the beginning may be saved by an optional device allowing reverse searches. This feature may be specified when the machine is ordered or, as in the case of the author's firm, may be added to existing installations. It is considered worth the small additional cost.

Each Reference Code is, in reality, a specially programmed combination of 61 characters covering three inches' worth of tape. Because the tape is moving so fast during the search process, the machine needs this much space to sense the Reference Code and come to a stop. Thus, the more separate items with Reference Codes there are on a reel of tape, the less space will be available for recording typed material.

Further Information

You can obtain further information about the MT/ST by consulting your nearest IBM Office Products Division branch office (which will most likely send a representative to discuss your needs).

OFFICE PROCEDURES

Set forth below are some of the procedures developed by the author's firm to organize the office's typing production around the MT/ST. These procedures were compiled in the form of an office manual, and copies were distributed to all attorneys and secretaries in the firm.

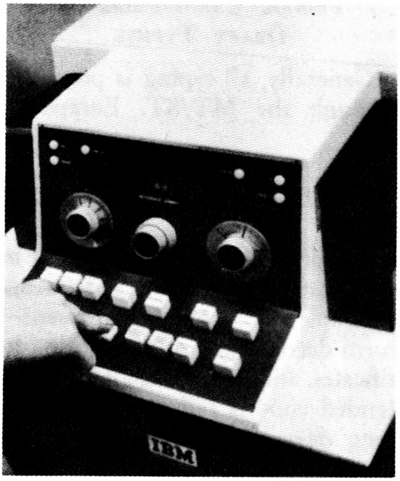


ILLUSTRATION 2. The operating panel of the IBM MT/ST Tape Console, Model IV, with two tape stations. The three dials, from left to right, are the Operation Selector Dial, the Reference Number Dial, and Playback Mode Dial. Fifteen code keys are arranged below.

Actually, there are two sets of procedures involved, based on the two basic kinds of work that the MT/ST does for us:

- "Power," "error free," or "draft" typing.

- "Automatic," "stored," or "form" typing.

Its principal function—and at the beginning its almost exclusive use—has been under the first category, which will be the first considered below.

POWER, ERROR-FREE, OR DRAFT TYPING

Generally, all typing is processed through the MT/ST. Exceptions are:

- Miscellaneous typing.

  → Forms. (We do not expect to abandon, or even to curtail to an appreciable extent, the use of forms—form deeds, deeds of trust, title certificates, and so on. Except when extended copy is required, such as a long description, the MT/ST cannot be efficiently used for forms. Forms will still make our work easier in many areas.)

  → Client index cards, real estate index cards, order forms, checks, and like items.

  → Notes, short memos, and padded memos or speed letters.

  → Straight copy work for internal use only, where error correction or redrafts are not needed.

  → Envelope addressing and typing of manuscript covers. (In the case of letters, the same tape input which gives the name and address of the addressee may be used for the envelope, eliminating retyping.)

- Overflow from MT/ST operator—in emergency and special situations only.

Routing of Work

With the above noted exceptions all typing work—short letters and long documents—should go to the MT/ST operator. Her day will be too full to take shorthand except in occasional unusual situations. Accordingly, all work should be on magnetic dictation tapes, from markups ("Xerox" copies of prior documents written over by originating attorney), from prior drafts or like sources.

All MT/ST work is first done on rough draft paper. It is then picked up by the originating attorney who checks it for errors, notes corrections thereon in pen, and makes any revisions in draftsmanship—whether additions or deletions. He returns it to the MT/ST operator, who prepares the revised draft or final copy.

When it is completed, the attorney picks up the work, proofreads changed items only (the rough draft is retained by MT/ST operator for comparison if needed and should be destroyed when final revision is accepted), and delivers the work to the general secretary. She makes manuscript covers, staples, folds, stamps, and so on, as necessary, and files copies.

The MT/ST can be used most effectively if rough-draft production (inputs) can be done at one sitting with finished products (playouts) at another sitting. While emergencies will require variance from this technique, generally the morning should be devoted to inputs and the afternoon to playouts.

In-and-Out Trays

Efficiency is furthered by use of one "In" tray and three "Out" trays at the MT/ST station. The "In" tray is for originating attorneys to deposit their work.

Except for such variances as the individual originating attorneys may take the responsibility for directing, work should be done in the order received, with the bottom items on the "In" tray receiving prime attention from the MT/ST operator. Attorneys should make sure that the originator is properly identified.

There is an "Out" tray for each attorney, who can pick up completed work therefrom.

Revisions by attorneys go back into the "In" tray until the work is ready for delivery to the front office secretary.

Revision Work

The MT/ST is of considerable use in day-to-day typing and drafting without any programming of forms. The manufacturer calls this the "power typing" feature, and the use of the machine can almost be justified in this area alone (though we do feel that it is the programming of permanent tapes that really tips the balance in favor of integrating the machine into one's law office).

Any document that is drafted requires revisions, not only to correct the secretary's typographical errors (most of which she corrects as she goes along), but to allow the attorney to put his thoughts on paper in tentative form without extensive and laborious handwritten drafts or the retyping of numerous drafts. The first draft is given to the attorney, who works on it with his red felt-tipped pen and then returns it to the operator to make corrections and to run off another draft.

If the drafting is extensive and the instrument involved, she generally will upgrade or clean up the tape so that the corrections only have to be made once. If the corrections are simple, she will make them manually as she plays out the tape and will not correct the tape. On a machine with two tape stations, extensive corrections are made by transferring from the tape containing the original draft to a second tape.

As previously indicated, all tapes are kept until documents are acceptable. This saves considerable redrafting in instances where several different parties have to approve the document—such as the trust officer, the life insurance operator, the certified public accountant, and the client.

Even our day-to-day short letters go on tape to allow the operator to correct her errors and send out perfect copy, as well as to allow the attorney to make single-word changes or more involved revisions

FORM 1—PORTION OF MT/ST OPERATOR'S LOG

REF. CODE	DESCRIPTION	MARGIN		PLAY BACK		ATTY.	SPCG.		TAB AND SPECIAL INSTRUCTION
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	
							S	D	

after he reviews the draft and gives it further thought. With no erasures of the originals or carbons necessary, operator speed and output are remarkable.

Operator's Log

It is essential that the operator keep a record of all material as it is recorded on the tapes. Form 1 illustrates a log that is used for such purpose as to the temporary tapes. This log is distinct from that used for permanently stored work.

Permanent tapes are labelled 1, 2, 3, and so on, and those containing temporary work are labelled A, B, C, and so on. Since permanent forms are displayed on the pages of the notebook, logs for them are kept in a separate folder

Periodically, the operator will view the work of the past day (all past work still on tape) with various originating attorneys, in der to determine which tapes shou be retained and which can be u for other work. Tapes should be tained for all letters until mail and for all documents until accep ed and executed by the clien whether this be one day or th months.

Whether a permanent form used or not, all documents are k on tape until the instrument is fu acceptable and placed in use, only then is the temporary tape turned to general use for oth work.

When an item need no longer retained on tape, it is crossed out the log so that this tape (or portion thereof) can be reused. The old material is automatically erased as the new material is recorded over it.

Destruction of Drafts

Caution: Drafts produced on the MT/ST are, like all other drafts, confidential client information. When they are no longer needed they should be *destroyed*—not put in the waste basket.

AUTOMATIC, STORED, OR FORM TYPING

It has been said by law firms using the MT/ST that the machine can be justified solely by its usefulness for the power, error-free, or draft typing function. Quite clearly it will be necessary that the operator and the attorneys master the use of the machine in this area before going on to permanently stored uses. Profitable use of the machine for stored materials should come with increased confidence on the part of all concerned, and with the time it takes to carefully consider, draft, and intelligently store and index the various permanent forms.

Controlling Use of Machine

It seems obvious that successful and effective use of the MT/ST by the firm dictates a sensible balance between autocratic monopolization of the MT/ST and its permanent forms by the attorney primarily responsible for its management and an anarchistic situation where each attorney maintains his own forms and disdains the use of those of another.

In a large, nearby firm having an MT/ST with a fair supply of permanent forms, the author has been told that some attorneys refuse to use the machine for permanent forms, while three attorneys have created three different forms of a simple will, requiring the investment of the firm in the time of the operator in creating the master tape (a not insubstantial investment until she becomes quite adept at the process) and in the $20 tape, which holds about 13 single-spaced, letter-sized pages of type.

MANAGEMENT BY ATTORNEY

Experience with the MT/ST has emphasized that strong central direction by an attorney (and not just the operator) is essential.

The programming, indexing, designing, and use of permanent forms will necessarily mean that the opinions of one attorney will be dominant and his draftsmanship will likewise predominate—unless other attorneys keep their own set of indexes and forms, together with their own group of permanent tapes. This duplication can be justified, if desired—in spite of the expense of the tapes—as the tape expense is a relatively minor item in the long-range development of a valuable inventory of frequently used forms.

What probably cannot be justified, without some thought and imagination, is the loading of one machine and one operator with two or three sets of permanent material by two or three attorneys, because the production, display, and indexing of these forms takes a good deal of operator time in the preparation and planning stages. This, in addition to her day-to-day "power" typing, would appear to keep one operator busy and make it difficult to keep two or more groups of programmed forms in the works.

There is, of course, some duplication of draftsmanship in simple documents, for which the form is reasonably standardized and might well become the approved form for a given office. Whenever one decrees an approved form for an office, the risk of wounded feelings and infringements on one's pride of draftsmanship may lead to strained relations between attorneys—which are not worth any economy gained by so doing.

Developing the System

It is necessary to have to go slow in developing procedures, techniques, forms, and rules for permanent tapes, and to maintain a flexibility that will respect the integrity of each attorney's desire to have his draftsmanship express his skills and best judgment, while attempting to avoid extensive revisions merely to reflect differing attitudes regarding style. It is likewise necessary to pay-in the investment in time and tapes gradually, af due thought, and without the wa of a crash program of perman tape creation.

RULES FOR BEGINNERS

The following general princip may be helpful in working out th creation and use of perman tapes:

- Go slow.

- Tapes should be created onl when the expected repeated u thereof will justify the cost of cr tion, tape, storage, and indexin thereof. This will of course be matter of judgment, and opinio can and will vary as to this.

- Printed forms should not b abandoned, and in many instan their use will be preferable to cr tion of a permanent tape.

- No attorney or two attorne should have a veto over the cr tion of a tape by another, but ea attorney should exercise his ow veto or restraint over his own wo asking himself if the form me the test of expected repeat usage a degree justifying it, and if varies in substance from those ready on tape.

- Each attorney should, when c ating a tape, polish it up by availi himself of the collective judgm f the other attorneys—who not nly should have occasion to use it ter, but who may make a real ntribution in correcting errors or missions of substance or in point- g out ambiguities. The form can e best drafted by an individual, ot a committee, but it can be a etter form by asking for well-con- idered opinions and suggestions, hough the draftsman may decline (preferably rendering the courtesy f giving reasons) to take the sug- estions. A well-drafted master orm for permanent taping should ake a lot of thought and polish- ng. It should not go out in a urry. Thus can the quality of the ork of all be improved by using rmanent tapes for repeat or oilerplate material.

orm Books

We keep our MT/ST perma- ent forms in a series of small (1¼ ch-thick) looseleaf notebooks. he letter-size sheets, which are Xerox" copies of a master kept by he MT/ST operator, are kept in llophane covers to protect them, ith one page on either side of the ack mounting.

Each notebook holds about 20 of hese cellophane covers, giving us 0 letter-size pages in a notebook. We have four of them now, plus a otebook for a table of contents nd an index.

Each attorney has a set of these otebooks and dictates therefrom on magnetic tape dictating equipment. The MT/ST operator has her master form notebook mounted on the standard MT/ST stand, which comes with the desk provided as standard equipment for the installation.

CARD SYSTEM

When we began our system of permanent forms, we tried placing clauses that would appear on the permanent forms on five- by eight-inch filing cards, mounted in a visible-type filing tray. We had previously examined and discarded the idea of using the "Circle West" cardholder pages that Bernard Sternin describes in his articles. *See, e.g.*, Sternin, *Edge-Punched Cards—The Input Unit for Automatic Typing*, THE PRACTICAL LAWYER, April 1969, pp. 48, 46-48, 64.

Of course, each office will have to devise its own system and express its own preference. We did not find the cards too workable or helpful in our office with this machine, though others might.

We found that many of our forms are continuous in nature, though alternative provisions can be omitted and variations added. It seemed better to have continuous copy than to fragment the forms on cards. The notebooks in which the forms are contained are more readily usable and mounted in front of the MT/ST operator than were the cardholder pages and do not require removal from the notebook.

Table of Contents and Index

A table of contents is maintained for all the permanent forms used by the author's firm. This consists of the Reference Codes listed numerically, a description of the material and an indication of the general category (such as "Lease"). It is added to as we further develop our forms and does not require revision as does the index.

The firm also has an index of forms, classified by subject. Since a revision of the index would require retyping each time forms are added, we keep the index on MT/ST magnetic tape.

We consider the potential for accumulation of forms as almost unlimited and have only scratched the surface in utilizing them. Programming of MT/ST forms are particularly suited for various routine notices and motions that are peculiar to certain types of practice and that are repeated frequently in a given office.

Our permanent forms are not as complete in this area as we expect to make them. We see no reason why the uses outlined by Mr. Sternin are not fully adaptable to the MT/ST in most cases.

Reference Codes

The various provisions in a form are identified by a reference to the tape number and by the reference code at which the tape will stop when the provision is being searched for. Thus the first paragraph on tape number one is "1 1

Each article, paragraph, or grou of paragraphs should be identifie in like manner, as there should b a reference code number for eac item on a tape, which must b searched for.

Dictation by Attorney

On the form, these blanks (o "stop code" points) are identifie by letters—(*a*), (*b*), (*c*), and so o Thus, when dictating, the attorne may identify the tape and referen code number and then identify th blank by letter, followed by dictati of the item to be set forth therei

While acquiring proficiency i this, the attorney might well dicta in person to the MT/ST operato who can advise him as to the mechanics of the process and as t communication between attorne and operator.

With practice, each attorney an the operator can become acquaint with techniques for the profitabl use of the machine in drafting an redrafting, both with and withou the use of permanent tape forms.

Kinds of Forms Prepared

At the outset, the author's fir did not find it advisable to tap short, small clauses of isolated materials—such as verifications and a knowledgments. Likewise, it di not seem a good policy to crea general form collection or othe stereotyped letters, notices, and s on, unless for an expected high vo me of business or use from one lent or category of clients. This uld become useful as more is arned about what can and cannot be done profitably with the achine.

As a start, the MT/ST operator was provided with a simple will orm (without alternate paragraphs hat really take it a bit beyond the imple" category insofar as minimum fees are concerned), and she nd her instructor spent a good eal of time transcribing it on tape or use as a permanent form.

Forms Used Frequently

The author knows of a nearby rm that has only one permanent pe—a set of corporate bylaws. This can be profitably put on tape t an early stage with simplicity of ording and use, as only a few lanks or "stop codes" are needed, nd a fine looking product can be ut out with a minimum of secretarial time. Another firm also has set of bylaws on tape, but makes ther, more extensive use of permanent forms.

One of the next items for consideration might be a form for use n organizational corporate minutes. A simple lease (with more alternate paragraphs or variations than rovided in case of the simple will) ight be of value, and additional ariations and alternate paragraphs an be added later.

Other possibilities will doubtless resent themselves, and the firm can begin to realize the full potential of the two-tape MT/ST when the attorneys learn to communicate cooperatively among themselves and the MT/ST operator in developing sensible and imaginative uses for permanent forms.

Sample Lease Form

To illustrate the use of the MT/ST in a specific application for a permanent form, the Appendix to this article reproduces a portion of a lease form that the author's firm has found quite helpful. You will notice the various alternative paragraphs, which are similar to those provided in books of legal forms.

For this application in particular, we always copy the permanent tape on a temporary tape, leaving off the paragraphs that are not applicable in making the desired changes. The small "*sc*'s" are the operator's indication that a "stop code" is programmed into the tape at such points, so the machine will stop and she will know to add desired items or make desired changes.

The editorial comment in the form is made with a different "Selectric" type-ball (shown here in *italics*), and only that which appears in the standard, most frequently used type is programmed on the tape. Of course, the tape can be used with any type-ball that is desired. We find the different balls helpful in designing the permanent forms for display in our form books.

A helpful panel discussion of *Automated Drafting Techniques* (featuring extensive discussion of printed "boilerplate" as well as sparse references to the automatic typewriter) appears in 3 Real Property, Probate & Trust Journal at 475.

Observations on Using the MT/ST

Magnetic Tape vs. Punched Cards

It is difficult for those having experience with only one type of automatic typewriter to compare intelligently the uses that may be made with different machines. The practicability of adapting varied uses to a Friden Flexowriter utilized by Mr. Sternin to an IBM MT/ST or to another make of automatic typewriter will be controlled not merely by the machine and its capabilities, but by the ingenuity and the imagination of the programming attorney.

The author would not entirely agree with Mr. Sternin that the MT/ST is not suited for programmed letterwriting. Sternin, *Programmed Letterwriting for a Personal Injury Practice*, The Practical Lawyer, Dec. 1968, pp. 45, 54. At the same time, having no experience with the Friden "Flexowriter" that would permit a comparison of the machines, the author would hesitate to express an opinion as to which machine is better adapted for a given use.

Internal Expansion

It is true that materials are recorded consecutively on the MT/ST and that the materials recorded on a tape are not internally expandable *per se.* Variable materials can be manually inserted at stop codes in programmed letters, or through "switch codes," where a second tape cuts in to supply the variable materials. Modification can be made of programmed materials if the new material is shorter than the old. Transfers to a second tape on a two-tape machine permits the insertion of replacement materials on programmed tapes that are longer than the original materials.

The reverse-search feature allows as much flexibility as may be needed to select alternative paragraphs or sentences on a given tape in a programmed letter or document.

Integrated Documents

The author is inclined to agree that the machine used by Mr. Sternin may do some things that the MT/ST will not do. On the other hand, the author feels that the MT/ST can do some things that probably are beyond the day-to-day capacity of other machines, as hereafter noted.

It possibly is impractical to jump from one magnetic tape to another several times for small clauses or phrases making up the body of an instrument, as the tapes do have to be changed and you have to search for the place on the tape containing the desired clause.

We find, however, that we do not do too much jumping around between tapes. Our forms are more nearly in the nature of integrated instruments with optional provisions, rather than a more fragmentized series of clauses. For this reason, we frequently will add to an instrument a form attestation clause at the end thereof, rather than go to another tape for this short paragraph.

Long Paragraphs

Our longer paragraphs can easily be utilized by changing tapes. For instance, we have a set of powers that was originally drafted for use in an inter vivos revocable unfunded insurance trust. These powers are almost equally applicable to any trust for use by an individual in his estate plan, and with some minor changes they are applicable to the powers of an executor.

Accordingly, we have not prepared additional powers for such use and return to the insurance trust form, copying from our permanent tape the powers article, and "upgrading" the tape as we transfer it to the second tape on our MT/ST, making such changes as may be necessary to adapt the form.

Upgrading Tapes

Something further might be said about this "upgrading." We are quite glad that we chose to get a two-tape machine rather than a one-tape machine. The increased flexibility more than offsets the $75-per-month rental differential.

In such a machine, the second tape may be used to copy the first tape. Accordingly, a permanent form is put on one tape station; the operator fills in the blanks, skips the undesired material, adds new material, and picks the alternative paragraphs desired—with the product being displayed on draft paper, while the same is being copied on the second "upgraded" tape.

The permanent tape is not affected in any way and is returned to our permanent tape storage for later use. We make corrections on the draft paper with a red felt-tip pen, the tape is corrected accordingly, and the finished instrument is typed with the necessary carbons.

The finished instrument is forwarded to the client, who is told to consider it as a draft and to suggest changes. The changes can be made with a minimum of effort, as we keep the tape until the instrument is signed.

Computer Paper

We find linked lettersize computer forms ideal for draft use. They feed continuously into the machine from a stack behind the typewriter and can easily be torn off at the end of a given job.

Furthermore, they seem to be as inexpensive as any type of draft paper. (The holes along the sides are excess baggage and serve no purpose in our operation.)

Typewriter Ribbons

We use carbon ribbons on our typewriter and find that the machine eats these expensive ribbons up rather rapidly. One criticism we might make of the machine is that we are unable to use an inexpensive fabric ribbon on drafts, as we would like.

The machine has not been engineered so as to allow a dual system, and if you wish carbon ribbons on finished work (as we do), you will have to be content with having the machine eat carbon ribbons for draft work. We nevertheless feel that the expense is justified when the end result is viewed, as our work is of standard darkness and thus interchangeable.

Our second secretary has an IBM "Selectric" Typewriter and uses the same type-balls as used on the MT/ST, along with a carbon ribbon. Accordingly, the work looks alike, and the two machines are quite compatible.

What To Tell the Client

It goes without saying that the attorney should not indicate to the client that his document is composed in whole or in part of "boilerplate" from a MT/ST permanent tape, as the client will never understand the skills and time, both attorney and secretarial, that went into the permanent form, together with the rental on the machine and the time spent in intelligently applying and varying the form for the instant case.

This does not mean that the client should not understand the contribution being made by the MT/ST in general terms through the power-typing or draft-production process. His appreciation can be obtained without his knowing that his document came in part from a tape developed for other clients.

Never, *never* should a client wait in or out of the presence of the MT/ST while it produces his document from a permanent tape! His viewing of the process should be on occasion only, and then only when a nonpermanent playout is taking place.

Influence on Fee

These comments do not imply any hocus-pocus approach to attorney-client relations, but merely that we can never hope to take the time to educate the client to an intelligent understanding of the value to him of the permanent tape and a fair charge therefor.

In fact, attorneys are going to have to give some thought as to how to arrive at a sensible evaluation of the time spent on an MT/ST produced document, as the standard time-keeping criteria are scarcely applicable in view of the capital investment that is being played out from the tape, as well as the sizable overhead in keeping the ma chine. We certainly should not lower our charges, when our product is a better one and our overhead in producing it is greater, even though in a given case we may save a bit of attorney and secretarial time because our product was on a permanent tape.

Fair fees should be a source of continuing evaluation. The MT/ST, properly used, should raise the net income of the attorney, and increase the quality of work and the promptness of service without a fee increase in a given situation.

ADAPTATION TO THE LAW OFFICE

Each office will have to solve its own problem in its own way. The author is inclined to feel that the adaptations of this machine are such as to justify a careful programming thereof into offices, whether small or large, so as to allow each partner (if not each associate) to have his own sets of forms, which may vary from those originally designed by his partner considerably.

To do this, one must have more than one machine. However, a small or medium-sized office probably only needs one two-tape machine. One-tape machines might also be used in conjunction with two-tape machines to allow a smooth flow of work for several attorneys with several different inventories of tape.

Representatives of the manufacturer have indicated that machines are available that will make tapes only, but will not play out, and vice versa. Other machines are available that will print the material shown on the tape and justify the various lines, allowing a printed document to be produced on these typewriters suitable for submission to appellate courts and other agencies where printing of briefs is required.

Planning for Use

Full utilization of the MT/ST and development of its maximum potential requires imaginative and determined planning and programming into the particular needs of the office. It requires, perhaps, a stenographic hierarchy wherein the smooth flow of work through the machine is planned and directed. It requires attorney supervision and planning in order to avoid conflict on the attorney level.

Any potential purchaser or lessee of the MT/ST should be prepared to devote considerable thought, study, reading, planning, and review of systems in use by other attorneys. The machine has been seen in use in law offices where it was not being utilized to its fullest, where certain attorneys were suspicious of its value and resentful of its cost, and where each attorney continued to feel that the ideal law office required one secretary per attorney.

This machine makes a one-secretary-per-attorney setup not only unnecessary, but undesirable and archaic. The work flow in any office, large or small, should be completely reorganized around the machine, whether the same involves use of permanent forms or of routine, day-to-day typing functions.

Secretarial Organization

Effective use of the MT/ST necessitates some formalization of a division of secretarial functions. The traditional division, based upon which attorney originated the work, is poorly suited for an office that has the advantage of MT/ST techniques. The investment in the machine is such as to compel efficient routines for its use.

Work should be channeled by all attorneys by the nature of the task. This has brought to the author's firm obvious increases in output by all secretarial personnel, less confusion as to secretarial responsibilities, and generally good morale. The typing department, whether consisting of one MT/ST and its operator or two or more MT/ST's of varying features, should handle all typing for the firm, except for the miscellaneous matters above noted. Other employees may be receptionists, filing clerks, bookkeepers, and so on, in varying combinations.

The traditionalist who insists on a one attorney-one secretary operation and scorns a functional division as a "typing pool" will in some firms continue to make difficult the full integregation of an automated typing operation.

STANDBY OR SUSTITUTE OPERATOR

A good, intelligent typist should with the few days of initial training provided by the manufacturer, be able to turn out a useful volume of MT/ST work within three or four weeks. Where procedures have been established and permanent tape programming has been started, a new operator can fit into a new office with perhaps less "legal secretarial" orientation than required for general secretarial work.

It does not appear feasible to try to train an occasional standby or substitute operator. The skills required as second nature must be regularly used to be worthwhile. If an MT/ST operator leaves her employment or requires an extended leave of absence, a conventional typist will probably have to fill the need on conventional equipment until a new operator can be trained. The painfulness of such change of personnel will probably be no more than is normally experienced when a key employee leaves, and the void can perhaps be filled more quickly because the skill required is confined to typing, albeit automatic typing.

Leasing the Machine

The author believes that automatic typing is important in the future of the law office, small or large, and that an effort to integrate such into one's office is rewarding.

The minimum period during which the machine must be leased six months, with 30 days' written notice required for cancellation. During this half-year period, any law office should be able to realize some of the benefits and the value of automated typing. Such will be realized if the proper effort is made, and if the firm will stand behind the attorney and operator who plot the course.

APPENDIX

PORTION OF A PERMANENT LEASE FORM FOR USE WITH THE MT/ST AUTOMATIC TYPEWRITER

The portions that appear below in *italics* are explanatory for the attorney or operator and are not recorded on tape. The lettered blanks—(*a*), (*b*), (*c*), and so on—are for the attorney to dictate insertions or alternatives. These correspond with "stop codes" (indicated by the letters *sc*), which the operator encodes on the tape.

LEASE

The following form is an effort to tape variations of a simple business or residential lease. If all available provisions are utilized, it begins to be somewhat less than simple, and all should not be used where the client is seeking a relatively simple lease for a minimum fee. The use of the more extensive provisions should be in accordance with the client's need and the importance of the matter, and should of course be reflected in the fee. Other optional paragraphs could have been taped, but those included are likely to be most utilized. Other provisions can be added as necessary in particular cases.

[illegible]

NORTH CAROLINA
COUNTY OF *sc (a)*

THIS LEASE AGREEMENT, made and entered into this *sc (b)* day of *sc (c)* 19 *sc (d)*, by and between *sc (e)*, hereinafter called Lessor *sc (s)*; and *sc (omit preceding "and" if there is a guarantor,) sc (f)*, hereinafter called Lessee *sc (s)*; and *sc (g) (guarantor optional)*, hereinafter called Guarantor *sc (s)*; *sc*

WITNESSETH:

In consideration of the mutual covenants herein contained, the Lessor *sc (s)* do *sc (es)* lease and let unto the Lessee *sc (s)*, which *sc (who)* accept *sc (s)* as tenant *sc (s)* the following described real property: *sc*

APPENDIX *(Continued)*

Here type description, single-spaced with wide margins.

7-2

TO HAVE AND TO HOLD said premises upon those conditi
and with those privileges herein set forth for the term stated and pu
suant to the covenants hereinafter contained, which are agreed to by th
parties, said covenants and conditions being as follows:

7-3

sc TERM. This lease shall begin as of the date hereof and, unl
sooner terminated as herein provided, shall exist and continue *sc (1*
for a period of *sc* years. *OR (2) (until and including th*
day of 19 .)

OR

7-4

sc TERM. This instrument commits to writing the relationship
landlord and tenant which commenced when the Lessee *sc (s)* enter
into possession of said premises, to wit, on the *sc (a)* day
sc (b) 19 *sc (c)* , which is the beginning d
of the term, and, unless sooner terminated as herein provided, this le
shall exist and continue until and including the *sc (d)* day
sc (e) 19 *sc (f)*

OR

7-5

sc TERM. This lease shall begin on the *sc (a)* day
sc (b) 19 *sc (c)* , and, unless sooner terminat
as herein provided, shall exist and continue until and including th
sc (d) day of *sc (e)* 19 *sc (f)*.

7-7

sc RENTAL. As rental for said premises throughout the term her
the Lessee *sc (s)* shall pay to the Lessor *sc (s)* or to such agents as
(a) (he, she, it, or they) may designate at such place as may be designat
without notice or demand therefor, the sum of *sc (b)*
Dollars ($ *sc (c)*) per mont
payable in advance before the *sc (d)* day of each calendar mont

Additional Uses of the MT/ST

by MICHAEL H. CARDOZO

The article by Louis C. Allen, Jr., . . . is a most helpful guide for lawyers trying to save time in their offices. However, Mr. Allen only hinted at some of the remarkable things that the MT/ST [Magnetic Tape "Selectric" Typewriter] can do.

Carbonless Paper

First, let me assure Mr. Allen that it is *not* necessary to let "the machine eat carbon ribbons for draft work." Paper manufacturers produce rolls of coated ("carbonless") paper which give easily legible impressions merely from the pressure of a typewriter key, without any ribbon. Consequently, drafts can be prepared with the machine adjusted to the "stencil" slot on the ribbon control, and the ribbons are saved for the final, perfect copy.

Type Composing

With a small adjustment on the keyboard, the operator can feed onto the tape programmed instructions that can be "read" by the MT/SC [Magnetic Tape "Selectric" Composer] output machine, resulting in justified margins on both sides, and using a variety of type-balls, producing copies that have the same appearance as work produced by a regular "hot-type method." Mr. Allen referred briefly to that use of the machine, but I think it deserves greater emphasis for an office that has to produce a large volume of printed material, such as briefs, registration statements, and the like.

Use with Computer

Perhaps the most sophisticated use of the MT/ST is found in combining it with a computer. Material recorded on an MT/ST tape can readily be transferred to computer tape. This permits various kinds of sorting and rearranging of the material. The resulting computer tape can also be used on a photo-composing machine, producing printed copy at high speed. Because of the use of the magnetic tape, all of these materials can readily be corrected and revised without revision of whole pages or sections. An example of this highly sophisticated use of the MT/ST can be seen in the *Directory of Law Teachers,* produced by the Association of American Law Schools, and printed by offset process at West Publishing Company in St. Paul.

A word of warning howe involvement with computers ca be a traumatic experience for th neophytes; when it works, it wonderful, but when it's bad, it diabolical.

Correspondence

One more addition to M Allen's article: If the MT/ST i used for the everyday correspo dence of the office, there seem little doubt that an office with tw of the machines and three secre taries can produce more, lette perfect material than six steno raphers with standard typewrite In addition, the lawyers can ma corrections in their dictated wo without the delay incident to r typing an entire letter in order t insert one comma or one word i the middle of a page. Such machine is particularly helpful t lawyers, where precision in dra ing is frequently so desirable.

Magnetic Cards— A New Medium for Automatic Typing

Magnetic cards are the latest development in media that serve as the recording and playback units for automatic typewriters. Designed for use with the IBM Magnetic Card "Selectric" Typewriter, they combine the reusability of magnetic tape with the flexibility and simplified handling that are afforded by individual cards.

In short, the advent of magnetic cards is a welcome alternative for law firms that find the IBM Magnetic *Tape* "Selectric" Typewriter (MT/ST) impractical for their everyday use. *See* Allen, *Law-Office Typing with the IBM MT/ST,* THE PRACTICAL LAWYER, Apr. 1970, p. 13.

AN ALTERNATIVE TO MAGNETIC TAPE

Because the magnetic tape used by the MT/ST is permanently sealed in a plastic cartridge, the material recorded on it must be identified by a "search code," and a separate operator's log must be maintained to keep track of its location. In comparison, magnetic cards can be kept together with their related sheets of typed copy.

The card and paper can be passed around the office as a unit and can be filed together. (When not being

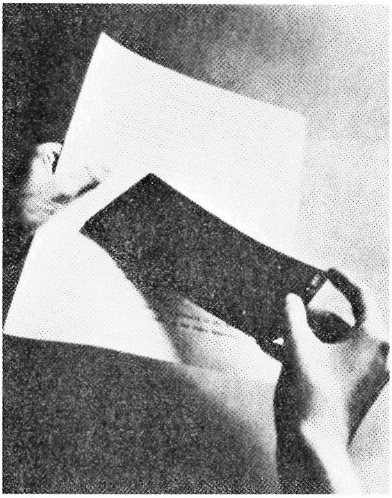


ILLUSTRATION 1. An IBM magnetic card with its accompanying typed copy.

used in the machine, the card is kept in an individual cardboard jacket or folder. See Illustration 1.)

Consequently, storage is far more flexible and retrieval much simpler than with magnetic tape. If you have the typed copy, the card is with it; there is no tape cartridge to be obtained, affixed to the machine, and searched.

Magnetic cards have the advantage of index cards in that each stands on its own as a separate unit. This makes them suitable for firms that wish to develop multi-paragraph approaches for typing legal materials that are used over and over again. *See, e.g.*, Sternin, *How To Automate Law-Office Typing—A Step-by-Step Approach,* THE PRACTICAL LAWYER, May 1968, p. 69; *Programmed Letterwriting for a Personal Injury Practice,* THE PRACTICAL LAWYER, Dec. 1968, p. 45.

Modification of any one card does not affect others. New cards may be added and old ones withdrawn or eliminated at any point in the programmed system, without limit.

Firms that have diversified applications for automatic typewriters, as distinguished from fixed, narrowly limited ones, will find magnetic cards *far* more flexible than tape. For use as an aid in revising dictation, secretaries will find the magnetic cards preferable to tape, since each dictated job can be separately recorded and stored more easily on cards.

If case data, such as names, addresses, and caption boxes are to be recorded, cards are the only workable approach, since these items are used in random order. Furthermore, typists will be surprised at how much simpler it is to use the Magnetic Card "Selectric" than the MT/ST.

This article will describe, in general, how the Magnetic Card "Selectric" Typewriter and magnetic cards work, how they can be used in the production of law office paperwork, and how they compare to other media (including edge punched cards and paper tape)

escription of the Machine

The Magnetic Card "Selectric" nsists of two units—a typewriter nd a card unit.

The typewriter portion, which placed on a desk or table, is milar to the regular IBM "Selecic" typing unit used in the T/ST. The type characters are ntained on a revolving "ball," stead of swinging keys, and the pe-balls are interchangeable to low a variety of type faces. It n be used separately, without its tomatic features, just the same as n ordinary electric typewriter.

The other portion is the card nit, or console, which stands bede the typewriter and is concted to it by a cable. The card nit holds the mag card that is ing recorded or played back and s a few related control devices. ost of the controls for automatic ping, however, are on the typeriter itself.

RECORDING ON "MAG" CARDS

Magnetic cards (or "mag" cards) re made of a strong plastic, coated n one side with the same magtic oxide coating used on the pes for your home tape recorder. lthough they actually measure ¼ by 7⅜ inches, they are often ferred to as being three by ven inches. When the term "threey-seven mag card" is used either re or elsewhere, you may be fairly certain that the reference is to this recording unit.

As with all other automatic typing, the operator must initially record the various bits of information that will later be used to operate the typewriter. These include codes that correspond not only to letters, numbers, and punctuation, but spacing, tabulation, and every other typing function. Each bit of information is considered a "character," regardless of its nature.

To record material, the operator places one of these mag cards into a slot in the card unit. The cards are clearly marked to indicate which side is up, and the unit will physically expel two or more cards accidently inserted together.

The operator will next press a button on the typewriter marked "Record" to turn on the recording part of the machine. Thereafter, anything she types on the typewriter will be recorded simultaneously on the card in the card unit.

Tracks

Recording is done across the seven-inch width of the card. The card is treated as having 50 separate tracks, each starting at the three-inch edge and running across the seven-inch width of the card.

Imagine a magnetic card laid horizontally with its seven-inch dimension going across this page. As the operator inserts it into the card unit, the machine is automatically set to begin recording at the beginning of the first track, which would be at the upper left corner.

As the operator types the first line, it is recorded along the first track, from left to right. When she touches the carrier return key on the typewriter to move to the second line on the paper, the card recorder automatically moves to the beginning of the *second* track on the magnetic card. Thus, the lines of typing on the paper will correspond to the tracks on the recorded magnetic card.

Line Capacity

Each track is capable of recording 100 characters—which include not only letters and punctuation, but spacing, tabulation, and other codes that operate the typewriter. The average line of typing contains about 60 to 70 characters, so there is ample capacity for each track to hold a typed line.

The extra capacity may be needed if a page is to be typed horizontally or if words are underscored. Underscoring uses three times as many characters as the words themselves: the initially typed words, the backspace codes, and the underscore.

Should the mag card reach the end of a track, there is a warning light and a method for the operator to move to the next track without returning the carriage. However, these are unusual situations, and for the purposes of this article each line of type may be thought of as being recorded on its own trac

The recording unit has a nume indicator that shows the operat which track is being recorded. I also enables the operator to sele any individual track she choos for either recording or playbac The line indicator can be seen i Illustration 2, which shows the in sertion of a mag card in the car unit.

Corrections

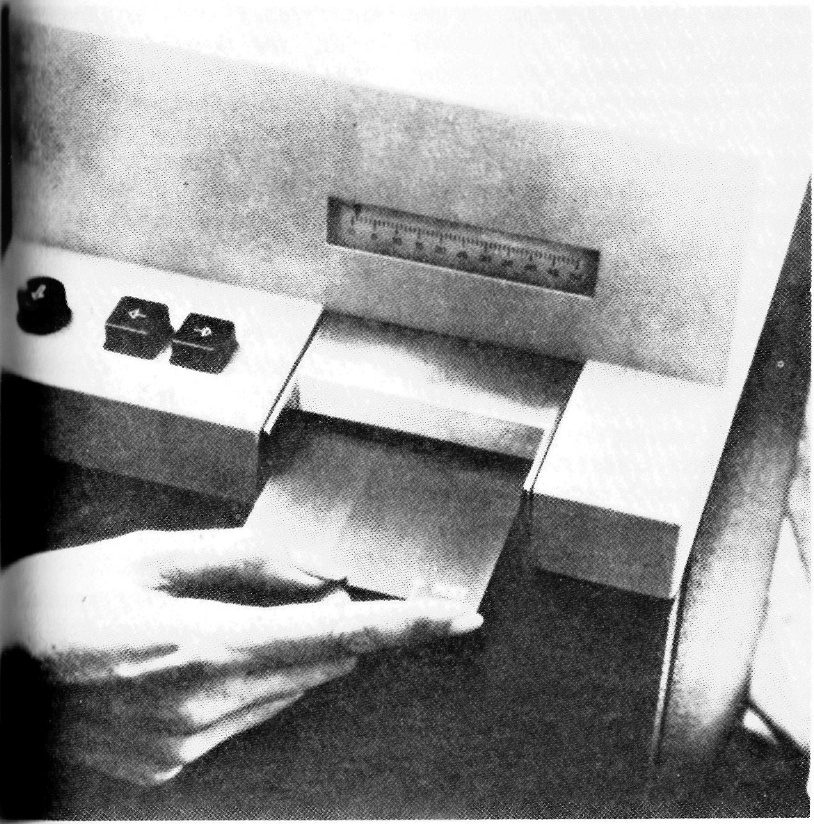
If the operator makes a mistak while typing, she may backspa and type the correct characte When she does so, the magneti card in the card unit is correspond ingly backspaced and the record ing of the new character auto matically erases the old.

If the operator does not see th error immediately, she may late go back to the track that contai the mistake and re-record that en tire line. The additional capacit of the track will accommodate correction that extends line length Just as in the home tape recorde re-recording erases the prior mate rial automatically.

Special Codes

The following are some of th special codes the operator may record on the cards:

- A *stop* code. When played back this will automatically stop th typewriter, enabling the operator t make a manual entry from the ma



USTRATION 2. A magnetic card being inserted into the IBM Magnetic Card lectric" Typewriter's card unit. The numeric indicator above shows which ne (or track) is being recorded or played.

ine's keyboard. This code is par- ularly important when the op- ator must add words or choose ong alternative language in a rm, shift from double space to gle, or change to another type yle by changing the type-ball.

A *delete* code, which enables the operator to block out unwanted characters without retyping anything over them.

- A *card eject* code, which is used at the end of a typing unit to expel the card automatically.

There are also a few other special codes, some of which are incidental to special applications that will be mentioned later. These special codes are encoded simply by depressing a code key together with one or another of the keyboard characters, which are appropriately engraved to designate their additional function.

HOW CARDS ARE PLAYED OUT

Automation begins when the recorded mag cards are later "played," causing the typewriter to retype their contents errorlessly and at extremely high speeds. Although the cards are *recorded* with particular, fixed materials, they may be *used* in many ways:

- By *adding* additional materials;

- By *skipping* words or lines;

- By using only *parts* of a given card; and

- By *combining* cards or parts of cards in varying sequences.

The following description of playout procedures will give some idea of the flexibility afforded by magnetic cards.

Insertion of the Card

Playout is effected by inserting the magnetic card into the same slot in the card unit that was used in recording it. Instead of depressing the "record" key on the typewriter, the operator presses the "play" key (or one of two other keys described below).

Routinely, typing action begins with the first character on the first track. However, if the operator needs to, she can select any of the 50 tracks by using one of two track selector keys—one of which moves the track reading action to the right, the other to the left.

The numbered track indicator moves right or left accordingly, shows her which track she is on, and enables her to stop at the one she wants. This is shown in Illustration 2.

Choice of Playout Operations

Unlike the recording process, in which there is only one key, there are *three* different ways of playing out a recorded card. The operator therefore has three keys from which to choose: "Play," "Adjust," or "Skip."

When the "Play" key is used the typewriter plays out the recorded card exactly as it was recorded, ending the lines and returning the carrier in response to the codes that are encoded in the magnetic card.

Adjust

When the "Adjust" key is used the machine plays out the recorded material in the card, but *does not* end the line and return the carrier in response to the pre-recorded ding. Instead, that coding is automatically responded to in a different way: a new line is begun when the type-ball reaches a "carriage return zone" at the right margin.

The machine's ability to adjust lines in this manner enables the operator to use a pre-recorded card in a modified way. If materials are added or by-passed, the location of the right margin is, of course, almost always changed. The machine adjusts for the change by returning the carriage when it senses a *space code* in the right margin zone. (The space code is the code used between words.) If the right margin zone is reached and the machine does not sense a space code after reading a few characters, it stops automatically, thereby allowing the operator to decide whether to hyphenate or to go on to the end of the word.

Skip

The "Skip" key enables the operator to by-pass pre-recorded materials that she does not want typed. When it is pressed, the machine simply goes past certain of the recorded materials. The skipped materials are not erased from the card; they are simply passed over.

Playout Mode

The three playout keys are used in conjunction with one of four other keys, which determine the *mode* of playout. These are: "Character," Word," "Line," and "Automatic." Basically, these latter keys control whether the machine is to stop after every character, every word, line, or not at all until a stop code or a card eject code is sensed.

For example, if the "Play" and "Word" keys are chosen, the machine will type a word, then stop. If the "Skip" and "Line" keys are pressed, the machine will skip a line, then stop. If the "Adjust" and "Automatic" keys are used, the machine will type continuously, and will adjust the margin in response to the right marginal zone.

The three playout keys are always used in conjunction with one or another of these four other keys, thereby giving the unit its extremely flexible capabilities, which will be described in the remainder of this article.

USING MAG CARDS IN LAW-OFFICE TYPING

The Mag Card "Selectric" and its magnetic cards can be put to use in the law office to do many typing jobs. The work generally will fall into two broad categories (which will be separately discussed):

- *Revisionary* typing. Here the equipment is used in connection with work done in draft (or work that, while not initially typed as a draft, is found in need of modification). Magnetic cards are recorded as an incident to the initial typing, and are then used to help retype the material in its final form. The magnetic cards are then free to be reused.

- *Repetitive or programmed* typing. This refers to the use of prerecorded materials—phrases, paragraphs, combinations of paragraphs, and the like, put together in varying combinations and sequences—to type a required document. The magnetic cards are recorded in anticipation of being needed on future occasions, as part of a plan or program. These cards are subject to careful planning, and become a part of the office library of recorded materials. Therefore, they are not free to be reused, unless eliminated from the program.

These applications of magnetic cards in the law office are described in greater detail below.

REVISIONARY TYPING

It is helpful to consider revisionary typing as being of two kinds. The first is the *single unit item,* where an entire document has been typed and recorded as a single, continuous piece of work. This may be a dictated letter or a simple agreement, will, or pleading that needs to be retyped.

The second kind of revisionary typing is the *multi-unit item*—such as a brief whose various sections will be developed as separate units, or an agreement, will, or pleading of sufficient complexity to require writing it part by part. What is characteristic here is that the document will be typed and recorded as *separate sections,* some of which will be revised more than others. When all sections are finished, they will be combined to form the final document.

Single-Unit Revision—A Letter

The dictation of a letter is done in your customary way. Before typing it, however, your secretary places a mag card into the card unit of the Mag Card "Selectric" and presses the "Record" key. While she is typing the letter on pages, each of the characters is simultaneously recorded on the magnetic card. When she is finished, she remits the letter to you for approval or revision.

The letter, envelope, and magnetic card can be conveniently kept together in an "Interdraft" holder, shown in Illustration The unit measures 8½ by 11 inches and has a lip at the left edge, under which the letter and envelope are clipped.

It also has a pocket on its reverse side, which holds the related magnetic card. When the letter is approved and dispatched, both the holder and magnetic card are reused.

Correction of Draft

During the initial typing of the

letter, errors will be corrected simply by backspacing and striking over the erroneous character with the correct one. In that way, the magnetic card is automatically corrected. The paper in the typewriter, however, will show a strike over.

In practice, therefore, the operator will have to decide whether the letter is likely to be revised and rerun, in which event there is no point in making an erasure and correction on the paper. If it is probable that the letter will be acceptable as initially typed, she will correct the typed copy in her usual way, as well as correcting the magnetic card.

If the typing error is not discovered until the operator has typed considerably past the error, it becomes easier to treat the letter being typed as a draft to be rerun, rather than to attempt to save it by erasing. The operator simply makes the correction on the magnetic card. Using one of the controls on the card unit, she moves the magnetic card back to the line that contains the error, and then retypes and thereby re-records the line.

The literature distributed by IBM suggests that all initial typing be considered draft work and that errors be corrected by backspacing and striking over. Thus, no attempt would be made to erase and possibly use the page initially typed as the original and final copy. If this approach is to be used, the initial typing is done onto inexpensive second sheets—not onto printed stationery.

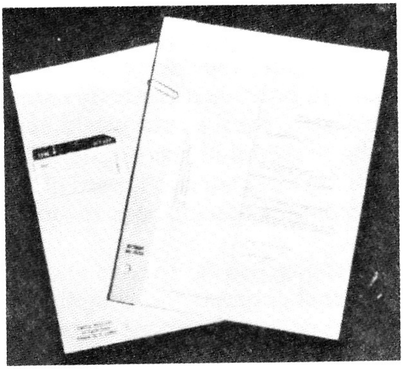


ILLUSTRATION 3. An "Interdraft" holder, with overlap on front for typed copy and pocket on back for a magnetic card, designed so that both may be kept together as a unit.

If the attorney dictating usually approves his letters as initially typed, and if the machine operator is a fairly good typist, she will probably work on stationery initially, correcting both the magnetic card and the typed copy. Conversely, if the attorney habitually makes many changes, if the typist's ability to produce error-free work is only moderate, or if many carbon copies are involved, then it would be wise to treat every single-unit typing job as a draft initially.

Pre-Recorded Cards as Letterwriting Aids

Pre-recorded cards may be prepared and saved for later use as an aid in doing letterwriting jobs.

In letterwriting, it is helpful to have a card containing the current date, together with coding that will position it correctly onto a letterhead. Such a card would have to be prepared at the beginning of each day. Of course, the card of the preceding day should be re-recorded on.

It is also helpful to have another card that contains the complimentary close and signature materials. Such a card, once created, is reused indefinitely. If there are several members of the firm, separate letter endings should be prepared for the signatures of each.

Bear in mind that a magnetic card contains 50 tracks and that the operator can locate any one of them easily. Consequently the letter closings for the various members of the firm can be recorded on one card, at different track levels—Mr. *A*, tracks 1 to 4; Mr. *B*, tracks 5 to 9; and so forth.

Multi-Unit Revision—A Brief

Many typing chores, particularly in the legal field, are of lengthy materials whose various parts are subject to a number of revisions. Some parts may be retyped more times than others. Magnetic cards offer a medium by which a sectionalized approach can be taken to this kind of typing. A brief can serve as a good example.

In preparing a brief, some of its sections will be subjected to many more reruns than others. The statement of fact may require a few revisions. Quotations from the record and citations, if they proofread correctly, will require none. Certain parts of the argument may need many rewrites. Furthermore, you may decide to rearrange the sequence of various sections for clarity or smoother flow of the presentation.

In using magnetic cards for work of this type, the operator records the various parts as separate short sections. Each section is recorded onto its own sheet of paper, and the corresponding recording is made on a separate magnetic card.

Exactly how the final brief will lay out, page by page, is determined only when all the sections have been revised to completion. The sections should be kept short in order to reduce the amount of material involved in the revision of any particular part.

Upon initial typing, any errors can be corrected by backspacing and typing over an erroneous character, or by backtracking and retyping any particular line. Since the initial typing is all in draft, the appearance of the typed page is of no importance.

Storing Card and Copy

An original and carbon may be made—one for the attorney, the other for the machine operator— or just an original may be made and both can work from that. In any event, the magnetic card and a copy should remain physically together so that the operator can conveniently locate the card and know exactly what has been recorded on it.

The "Interdraft" holder, shown in Illustration 3, can be used for this purpose. It is punched to fit the standard three-ring binder, and that is probably the most convenient way to store the various sections.

The pages can be tab indexed, if the job is complex enough to warrant it. Furthermore, the looseleaf approach allows the attorney to rearrange sections freely.

If several attorneys are each working on a separate aspect of the brief, the foregoing approach works well. Each develops his own sections, which are stored in looseleaf books. At the final stages, the sections to be used are chosen, assembled in the sequence wanted, and then typed automatically and errorlessly into final copy.

The magnetic cards are then free to be reused. You may want to save the citations for future brief writing. If so, be sure each is recorded as a separate section onto a separate magnetic card.

Repetitive or Programmed Typing

The use of magnetic cards for repetitive or "programmed" typing is an approach quite different from revisionary work. This involves the development of *prerecorded* form materials—phrases, paragraphs, groups of paragraphs, and units of language—that are planned and then recorded, indexed, and stored for later use, to be integrated together in whatever sequences may be needed, to formulate various work products.

These groups of language components are referred to as "programs."

The approach may be thought of as a form book whose paragraphs are recorded onto magnetic cards, allowing their contents to be typed automatically.

The points at which variable entries are made—such as names, dates, descriptions, and the like—are "stop" codes on the magnetic cards. When sensed by the machine, the typewriter stops automatically to allow the operator to type the variable information using the machine's keyboard.

In a larger sense, a program is different from a form book. A program is not a research tool, but rather a device for getting a job done very quickly. Consequently, material infrequently used is ordinarily not included in a program, or might be stored separately.

For a program to be successful, careful attention must be given to the analysis of the components—to their arrangement, their method of storage, and above all, to their *integration.* Integration simply means that any member of the first group of components must be able to be followed by any member of the next group, and so on down through the remainder of the program.

An example of a notice of motion analyzed to achieve integration of its various component parts was set out in Sternin, *How To Automate Law-Office Typing,* The Practical Lawyer, May 1968, pp. 69, 85-88.

Suitability for Programmed Work

Magnetic cards are exceptionally well suited for use as the recording units of a program. Because they are individual cards, they can be used in any sequence.

Unlike magnetic tape, there is no limit to the number of new units that can be added between existing ones, without requiring any modification of the older cards. Consequently, the programs are internally expandable at any point without limitation.

Furthermore, because the operator can locate any of the 50 tracks, the material encoded on any one of them is subject to internal retrieval. It is possible to design a card in which a series of phrases are recorded on separate tracks, or paragraphs on groups of tracks, and later play out those wanted simply by using the machine's track selector.

The IBM Magnetic Card "Selectric" Typewriter is itself ideally designed for use with programmed approaches. In addition to its provision for stop coding, it is capable of using a pre-recorded card in modified ways by skipping words and lines. Because it is able to adjust the right margin automatically, it can accommodate any additions or modifications that affect line length.

Storage of Programmed Cards

A method of storing of the programmed magnetic cards must be employed that will not only identify the cards but also show the operator their entire contents. Remember that the attorney in his dictation will routinely indicate what language is to be added at stop points, which alternatives are to be skipped, and, at times, which prerecorded language is to have other language substituted for it.

The operator must be able to see what has been recorded on the card in order to follow the dictated instructions. Consequently, the storage method employed must hold both the magnetic cards and a typed copy of the material recorded in them.

Both the cards and the copy may be stored conveniently in looseleaf ring books. Cardholder pages of the "Dekalog" type may be used to hold the magnetic cards, and standard office bond paper may be used to record the typed copy.

"Dekalog" cardholders are cardboard holders measuring 8½ by 11 inches. Each contains 10 over lapping pockets.

Each pocket will hold a magnetic card in such a way that about three-quarters of an inch of its edge is visible. Its identifying number can be seen at a glance.

Each magnetic card is customarily kept in its own small cardboard folder, and consequently a descriptive notation may be written across the edge, thus providing a verbal identification as well as a numeric one. The storage of these cards in a "Dekalog" holder is shown in Illustration 4.

The "Dekalog" holders are punched to fit standard three-ring looseleaf binders. These books are divided into sections by tab dividers. Each section will consist of one "Dekalog" holder, holding up to 10 magnetic cards, followed by the typed sheets that show the cards' contents.

Advantages of Storage Method

This simple method of storage offers many advantages:

- The magnetic cards and the sheets showing their contents are permanently together. There is never any need for the operator to go to more than one book to obtain the material she needs to do the job.

- 8½- by 11-inch sheets are adequate in length to record all the material that a magnetic card can hold.

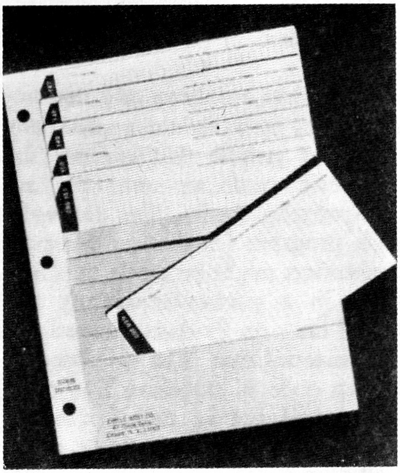


ILLUSTRATION 4. A "Dekalog" cardholder page, shown holding magnetic cards in their individual card folders.

- The cards and their corresponding sheets can be prepared simultaneously. This obvious advantage is easily overlooked. Many storage devices, such as the small jackets that house each magnetic card, cannot be typed upon directly because they are too stiff to go into the typewriter roller and too small to accept double spaced typing. With other storage methods, the magnetic cards may have to be prepared separately and then run single spaced onto labels, which are affixed to the storage device.

- Each cardholder pocket can accommodate more than one magnetic card. Thus, when you have recorded a duplicate card, differing only in gender or in number from the original, you can store it in the same holder.

- Collateral notations and instructions may be written conspicuously onto the jackets that enclose the magnetic cards or onto the accompanying sheets. For example, in a program for motion practice, a notation might be made that motions in a particular county are heard only on Fridays. Sometimes the material that is to be added at a stop code is extensive and must be spelled out in detail. On occasion, office procedure or court practice may require that certain collateral steps be done. The storage unit is often the ideal spot in which to place a written reminder that will be seen whenever the related magnetic card is used.

- In developing programs, "Dekalog" cardholder pages may be freely intermixed with the "Interdraft" holders. If you are storing a program for wills or trusts, for example, you will have many short paragraphs that store best in cardholder pages; but you may occasionally have a long paragraph running a page or more, which would be more conveniently typed onto 8½-by 11-inch paper and stored in an "Interdraft" holder.

- The storage system is extremely flexible. New sections can be added between existing ones without affecting the others. The looseleaf approach makes expansion easy, and more books can be added as needed. The storage method is, consequently, internally expandable at any point.

Attorney's Copy of Program

The attorney will usually have a duplicate program from which he will dictate. His copy should be an exact parallel of the recorded materials. Consequently, the storage method chosen should be one that will accommodate the attorney's copy, and in a way that allows any additions or modifications to be made easily in his copy as well as in the magnetically recorded one.

The method suggested here can store the attorney's materials on blank three- by seven-inch cards in cardholder pages, to parallel those magnetic cards similarly stored, and on standard 8½- by 11-inch paper to parallel those recorded materials stored in "Interdraft" holders.

Developing a Program

A programmed approach to an area of work requires a good deal of preliminary preparation. In *How To Automate Law Office Typing—A Step-by-Step Approach*, THE PRACTICAL LAWYER, May 1968, p. 69, the author described the use of blank three- by seven-inch cards as a way to organize a proposed program inexpensively and in advance of the purchase of any uipment.

The material, so arranged, would perfected in everyday use. The torney obtains the immediate nefit of a systematic approach dictation, as well as the advanges of developing something of mmense permanent value.

After the language components ve been established in this y, conversion to magnetic cards simple and an assured success. he operator merely transcribes e cards onto magnetic ones, and hereby obtains a parallel set for e at the machine. The original t remains with the attorney for use dictation.

COMPARISON WITH OTHER MACHINES

It is not within the scope of this ticle to make a detailed comparison between punched paper pe and cards, and magnetic tape nd cards. However, it may be helpful toward a better understanding f magnetic cards and the Magnetic Card "Selectric" Typewriter to oint out certain differences between that media and machine and he others.

ard-Tape Compatibility

A typewriter that uses punched per tape and edge-punched paper rds can punch and play back *both* f these media on the same machine. However, at the present me, equipment recording on agnetic media will use *either* tape or cards, but not both on the same machine.

Transfer Capability

The Mag Card "Selectric" does not have the capacity to transfer the content of a recorded card onto a blank card. The machine has only one recording "station," and consequently either recording or playback is going on at any one time—not both.

By comparison, machines that use punched paper tape and cards and machines that use magnetic tape have two "stations." Consequently, playout can be going on at one while the content is transferred and recorded, usually with modifications, at the other. However, this is not an important limitation, because of the way in which modifications are made on the magnetic card machine.

The Mag Card "Selectric" handles modifications of recorded material in a simpler way than punched paper tape or magnetic tape machines; consequently, there is little need to transfer the prerecorded contents to another card. Each *line* as recorded on a magnetic card is individually accessible, and may be *individually* changed, simply by being recorded upon.

Because each line of typing or recorded track on the magnetic card has the capacity to hold 100 characters, and since the average typed line contains only about

60, there is almost always enough room to take up any modifications that expand line length. If not, the operator re-records the following line or lines until she "catches up." The equipment automatically adjusts differences in line length.

Cost

A cost comparison between machines that use punched paper and those that use magnetic media can at best be only a very rough approximation. There will be differences based upon model and features, date of purchase or rental, and perhaps the area of the country. Generally, magnetic machines cost somewhat under $8,000, punched paper tape and card machines about $4,000.

The cost of magnetic cards as compared to punched cards is harder to equate because magnetic cards are reusable, unless committed to a permanent assignment. Each magnetic card costs about $1, bringing the cost to about two cents a line.

Edge-punched cards are not reusable, since they have holes permanently punched through them. Each is capable of recording one line of typing and costs about one cent each, bringing the cost to about a penny a line.

As a rule of thumb, magnetic systems, both in machinery and in recording media, run about double the cost of punched paper systems. The reusability factor of magnetic materials is one that each office will have to evaluate.

CONCLUSION

Magnetic cards as a recording medium for automatic typewriting make possible entirely new approaches in processing paperwork. Far more than a machine is being offered here. An entirely new dimension is being developed in the programming of language.

However, more than with any other piece of office equipment, the degree of success will be directly proportionate to the extent of the preparation work expended and to the willingness on the part of office personnel to adapt office procedures, methodology, and work habits to it. The author foresees an entirely new era about to unfold, built around these cards, and strongly urges that attorneys and their secretarial staffs become familiar with this vitally important technology.

FURTHER INFORMATION

Further information is provided in a booklet, *How To Utilize the Mag Card "Selectric" Typewriter in the Law Office,* which may be obtained from the Information Department, IBM, Office Products Division, 590 Madison Avenue, New York, N.Y. 10022.

Information regarding storage materials may be obtained from Circle West Co., 47 Circle Drive, Elmont, N.Y. 11003.

Law-Office Typing with the MT/ST—A Surrebuttal

by LOUIS C. ALLEN, JR.

In his series of articles in THE RACTICAL LAWYER on automatic yping, Bernard Sternin has ascribed several disadvantages to the IBM Magnetic Tape "Selectric" ypewriter (MT/ST) that he feels make it less practical for the average law office than other automatic typewriters on the market. The author strongly disagrees with this conclusion.

Without rehashing the contents of my previous article [Allen, *Law Office Typing with the IBM MT/ST*, THE PRACTICAL LAWYER, Apr. 1970, p. 13], I wish to reaffirm my belief in the superiority of the MT/ST in meeting a lawyer's typing needs.

COMPARISON WITH THE MAG CARD "SELECTRIC"

The IBM Corporation has recently introduced a smaller and less elaborate kind of automatic typewriter—the Magnetic Card "Selectric" Typewriter (or Mag Card "Selectric")—which records on 3¼- by 7⅜-inch magnetic cards, rather than magnetic tape.

Because of its relative simplicity of operation and the alleged convenience of having recorded material kept on separate cards (as opposed to a continuous reel of tape), Mr. Sternin has recommended the Mag Card "Selectric" as being more practical than the MT/ST for the average law office.

Sternin, *Magnetic Cards—A New Medium for Automatic Typing,* THE PRACTICAL LAWYER, Oct. 1970, p. 49.

My own experience, based on the use of a two-tape MT/ST in a three-man firm, leads me to the opposite opinion. First, we have not suffered from the MT/ST's alleged disadvantages, and therefore feel they have been exaggerated. Second, we believe that a two-tape MT/ST is considerably more flexible and can be put to much more extensive use than the Mag Card "Selectric," whether the law office be large or small.

The author would respectfully suggest that Mr. Sternin's relative evaluation of the two machines has been influenced too heavily by the system of programmed drafting and letterwriting that he first envisioned through the use of the Friden machines with edge-punched cards and paper tape. Consequently, his articles have not sufficiently recognized the advantages of the MT/ST.

Flexibility in Repetitive Typing

Mr. Sternin has pointed out that that the MT/ST is not so adaptable as other machines to the programmed letterwriting and drafting techniques described in his articles, since the materials must be placed on magnetic tape rather than kept as separate, interchangeable units.

I understand some of the uses that Mr. Sternin suggests with reference to having short, standard paragraphs, names and addresses, captions, and so forth placed on punched cards or on magnetic cards, making it possible to do one's typing by pulling cards from a file and thus composing the letter or document. This approach may be just what is needed in certain law offices.

However, I have found that the bulk of the attorney's work is of greater length and does not really require a machine geared for small units. Legal documents are usually more than one page in length, and an MT/ST can, in my opinion, do a more comprehensive job of producing a multi-page document than can the Mag Card "Selectric," which has cards designed for one page use.

The MT/ST's potential goes far beyond the programming of clauses for repeat letterwriting and drafting. It coordinates such with revisionary typing and allows the lawyer a tool that he can use more extensively than he might imagine.

Revisionary typing should constitute a major part of automatic typing. It can be quite adequately combined with the programming of forms through the use of the two-tape MT/ST.

Transfer Capability

Among other things, there apparently is no way to upgrade or copy the magnetic impression on the mag card. I believe that this is ital for full use of an automatic ypewriter and that this feature hould be used quite extensively n an office for upgrading copy in visionary typing, as well as in ansferring permanently programmed forms to an upgraded visionary status.

The convenience afforded by the two-tape MT/ST of being able to transfer this permanent tape material to a temporary tape for further proofreading and revision is so great that my firm would not now consider a machine, such as the Mag Card "Selectric," that did not have a transfer capability.

The most significant feature distinguishing the MT/ST from the Mag Card machine is this capacity for copying tapes. I would recommend that those attorneys ordering the two-tape MT/ST facilitate the use of this feature by specifying the "code conversion" option, which permits transfers with a minimum of knob twisting by the operator. Our firm recently had this optional feature added, and we found from the first day of use that it was worth the additional cost. I feel that the manufacturer should make this feature, along with the "reverse search" option, standard equipment on all its two-tape machines.

I would specially note that these remarks are limited to the two-tape (Model IV) MT/ST, as the one-tape machine does not have the transfer feature. Unless used in conjunction with an integrated "word processing center" (IBM's phrase) having a two-tape machine or the more advanced Magnetic Tape "Selectric" Composer (MT/SC) (which produces a justified line akin to a printing operation), the one-tape machine does not have a great deal more to offer than the Mag Card.

Searching for Material

I believe that the difficulty of searching a magnetic tape for the reference code marking the material has been overemphasized and that this problem is rather minimal—particularly if one has a backward-search feature on the machine.

There is perhaps more trouble in changing from one tape cartridge to another than in changing mag cards. However, on programmed forms, we put related materials on one tape, rather than on scattered tapes, and place optional paragraphs in their usual sequence on the tape. Accordingly, search problems are really nonexistent.

Complexity of Operation

The MT/ST is not so complicated that personnel cannot be found presently within the average office to master the technique. There must, however, be a determination to do so and a willingness to learn something new and different. If this willingness is lacking, either in the lawyer or the secretary, the venture will undoubtedly fail.

Unfortunately, many MT/ST's have been returned after the minimum leasing period because adequate plans for their use were not made and implemented, and because there was insufficient determination on the part of the managing partner or partners.

Most unsuccessful law-office installations of the MT/ST are, without doubt, due to either:

- A failure on the part of the firm to assign an attorney with the authority and ability properly to plan, program, and implement the use of the machine; or

- A failure to assign a good secretary.

Good Secretary Needed

A venture into MT/ST automatic typing will definitely fail if the operator lacks the basic capabilities of a good secretary, or if she lacks the proper motivation and cannot be induced to approach this basic change in office routine with a positive attitude.

Perhaps I am misled by an exceptionally good secretary in our office; however, I feel that any intelligent secretary can learn to make good use of the MT/ST with determined direction by the managing attorney and with a willingness to be frustrated for the first three or four weeks. Our secretary was also frustrated at first, but she has since turned down opportunities to go into other work, stating that she thoroughly enjoys this machine.

A Step Toward Automation

I would agree that the Mag Card "Selectric" is a step in the right direction for lawyers who have not experienced automatic typing. However, it is merely an intermediate step toward the full potential that can be realized by a two-tape MT/ST, and this step would not appear to be necessary. For one thing, the difference in rental of the Mag Card "Selectric" and the two-tape MT/ST is not significant.

Perhaps for very practical business reasons, IBM salesman are not adequately bringing to the attention of the lawyer the greater desirability of the MT/ST for the law office, and seem content to sell the Mag Card "Selectric." (I am told that salesmen run into trouble from the attorney or his secretary from the supposed complexities of the MT/ST, whereas the Mag Card "Selectric" can be sold as being easier to master.)

The author feels, however, that the legal profession owes it to itself to learn of this means of increasing its efficiency and productivity, and that halfway measures such as the Mag Card machine are really not worthy alternatives.

Supplementary Machines

At the present time, it is impos-ible for an MT/ST to accept a mag ard and copy its contents on tape. Perhaps in the future the two machines will be made compatible, permitting a law office to supplement its two-tape MT/ST with a Mag Card "Selectric" and allowing the mag card data to be transferred o the MT/ST.

Even now, a large law office might find a supplementary Mag Card machine helpful in some locations for limited kinds of ecretarial functions.

By and large, however, the uthor feels that the two-tape MT/ST should be supplemented by other MT/ST's where the office's needs are beyond the apacity of one machine. Some conomy in rentals might be chieved by the intelligent coordination of less expensive versions of the machine—such as a one-tape MT/ST or one or more machines that are designed for inputs only (allowing a single machine o do the high-speed automatic playout).

Although the author's own experience with the MT/ST has been in a three-lawyer office, he has observed their use in a departmentalized law firm of some 20 members, where two machines are not nearly enough.

Where departmentalization exists in a large law firm, each department can and should utilize one or more MT/ST machines within its area, with specialists in each branch of the practice taking full advantage of the opportunity to program their own permanent forms, as well as having immediate revisionary typing on a day-to-day basis for correspondence, drafting, and 95 per cent of all typing done.

ADDITIONAL USES OF MT/ST

Maintaining Indexes on Tape

In a letter to THE PRACTICAL LAWYER (Nov. 1970, p. 91), Michael H. Cardozo pointed out that the MT/ST can do some remarkable things when used with a computer—referring specifically to the use of the MT/ST in the DIRECTORY OF LAW TEACHERS.

While the author's firm does not maintain a directory or a list of addresses on tape (though this is a quite pertinent use where there is a need), we have begun to keep indexes, procedural outlines, and manuals on tape to facilitate and encourage their continual revision.

For instance, we type a list of some 150 or more frequently used telephone numbers on a sheet for distribution to the various telephone stations in the office, categorizing the numbers within various alphabetically enumerated subgroups. Each time a new telephone directory comes out, we have to make some changes in the numbers, along with additions and deletions to the list.

When done manually, this kind of detailed typing was rather time-consuming, so we have placed our list of telephone numbers on magnetic tape, and now the updating job is easily accomplished in a much shorter time than was heretofore possible. It does tie up a $20 tape, but after rerunning the list two or three times, the tape is paid for in saved secretarial time.

Our earliest use of an MT/ST for such purposes was in the indexing of our list of MT/ST forms. When we add additional forms to our inventory, we transfer or "upgrade" the tape containing the index, adding indexing and cross-indexing for the new forms. Along the same line, we have an index of our printed form files and have placed this on tape to facilitate and encourage revision.

Preparing and Revising Office Manuals

H. Lee Turner of Great Bend, Kansas, has said that the secret of successfully training and using lay personnel lies in committing to writing the procedures involved in various repetitive matters handled by a law office. Where such can be properly organized, outlined, and explained in a useable set of instructions, paralegal personnel can be relied on—with proper supervision—to handle many routine details that formerly required the lawyer's personal attention.

These instructions can only be of value if they are kept up to date to reflect the procedures that are currently being followed. No useful manual can be written that does not require change, and change should be facilitated and encouraged.

The MT/ST facilitates and encourages revision. Accordingly, the author's firm is placing on tape a set of procedures that we are designing for use in our office manual. As our procedures are refined and as the manual can be improved upon, the tape will be upgraded and the manual retyped.

Carbonless Paper

The MT/ST is available with either the ordinary fabric ribbon or the carbon ribbon. To make the work product compatible with earlier work from the machine or from other machines, I prefer the carbon ribbon.

A commitment to carbon ribbons, however, necessitates their use during the rough-draft process, and many ribbons are so used. This expense could be avoided if the manufacturer would engineer a "Selectric" typewriter having a dual-ribbon option. At present, however, the carbon-ribbon option carries with it this shortcoming.

In his letter, Mr. Cardozo suggested that this can be avoided by using rolls of coated ("carbonless") paper—which produces impres sions by the mere pressure of a typewriter key, without a ribbon. In this way, ribbons can be saved for the final copy.

Carbonless paper can be purchased under the name, "3M Brand Carbonless—Type 100." It comes in single sheets (both 8½ by 11 and 8½ by 14 inches, or cut to order) and is also available in rolls of various lengths. Mr. Cardozo uses 440-foot, one-ply rolls, 8 7/16 inches wide.

Further information can be obtained by writing to Minnesota Mining and Manufacturing Co., Paper Products Division, Building 220-11W, 3M Center, St. Paul, Minn. 55101.

Although the light-blue impressions created on the coated paper are not as legible as ordinary typing, they are satisfactory for draft purposes. Another characteristic is that they cannot be erased, but this is not important for rough-draft purposes.

Continuous Paper Feed

The use of rolls of paper, as suggested by Mr. Cardozo, allows the convenience of having continuous typing without replacing single sheets. However, it would require a conveniently designed holder that could be placed on the operator's desk and some type of tearing blade to cut the paper.

The author's firm achieves the benefit of continuous typing by having a stack of letter-sized, linked computer paper, which allows continuous feed but easily detaches. This paper is inexpensive.

The author has checked with a paper distributor and learned that the carbonless paper can also be made up, by special order, into linked paper with perforiations for tearing off letter-size portions. Such a special order would be rather expensive in the amounts that could be used by a small office. It is hoped that linked, carbonless paper will someday appear on the market at low enough prices to make this approach economically feasible.

CONCLUSION

Despite our differing opinions on some matters, I must give considerable credit to Bernard Sternin for his articles on automatic typing. They have illustrated imaginative programming techniques and have furnished a wealth of material to stimulate the lawyer's interest in the automatic typing field.

I would like to acknowledge the extent to which I am in his debt, for his writings were the cause of my firm's investigation of automatic typewriters and our determination to make them a part of our office equipment. Such is a considerable contribution to a law office. I share in Mr. Sternin's desire that more of our fellow members of the bar may benefit from automatic typing, as have our own offices.

Choosing an Automatic Typewriter for the Law Office

To learn what automatic typing quipment is available and to elect which is best suited for his ffice is no simple undertaking for a busy lawyer. The choice is not made easier by the continual introduction of new and improved machines and the resultant availability of excellent older models at very attractive prices—many of which are entirely suitable for certain applications.

The risk in the selection of an inappropriate machine lies not so much in its cost—you can recoup much of it—but rather in the possible failure of the entire project because of discouraged personnel, and the abandonment of an approach which, with proper equipment, could have been an unparalleled success and saved vast amounts of time and money.

The author suggests you approach the question of the possible use of automatic typing equipment with the same thoroughness as you would approach a job for a client. If done successfully, it could be as important to you as any undertaking you are currently handling.

Assign responsibility for it to an attorney, or accept responsibility for it yourself. Allot time to it. Research the problem. Read all the material on the subject that has appeared in THE PRACTICAL LAWYER and send for anything anyone offers. Conclude with a written report.

THREE MAJOR CHOICES

In deciding which piece of equipment to select, you will have to make three major choices:

- *Recording media.* Should you install a machine that uses punched paper tape and cards or one that uses magnetic tape or magnetic cards? Paper is much cheaper than magnetics, but is not reusable.

- *Automatic Line Adjustment.* Should you obtain equipment capable of repositioning words to form new lines automatically? This feature facilitates making additions and modifications to recorded material that change line length, but it adds to the cost of the machine.

- *Transfer Capacity.* Should you buy equipment with transfer capacity, that is, the ability to transcribe or re-record information from a recorded tape or card onto an unrecorded one, to form a new recording automatically. This feature may also increase cost.

The main differences among the various automatic typewriters involve the three factors mentioned above. For some applications, simpler equipment with less sophisticated features will get the job done every bit as well and for far less money. The more experienced user will employ the least expensive machine possible to do the required job, rather than use more costly equipment to do everything.

Therefore, it would be helpful to consider these differences as they affect each of the three most important applications of automatic typewriters.

HOW THE MACHINE WILL BE USED

Generally, automatic typewriters can be employed in three different ways in an office:

- Rough drafting;

- Revisionary work; and

- Repetitive or "programmed" typing.

When you have decided which of these prospective uses will probably be most important in your office, you will be able to select a machine whose features make it best adapted to your needs.

Rough Drafting

In rough drafting, the equipment is used to type onto scrap paper to produce a recording on which errors are immediately corrected by the typist as they are made. The recording is then used to produce an error-free typed product.

For rough drafting, a punched paper tape machine will do the job, but not as conveniently as magnetic tape or magnetic cards. On punched paper, errors are corrected by overpunching the wrong characters with a special delete code, and then repunching the correct character. With magnetics, retyping does both jobs.

Also, with the coding used with punched paper, certain special considerations must be kept in mind by the operator in connection with a shift in case (capitals to small letters or vice versa). Error correction on punched media therefore requires a somewhat more experienced operator than magnetics, and you will not be as free to shift untrained personnel to the machine.

Rough drafting can almost always proceed quite well on equipment that does not have the capacity to reposition words to form new lines, because almost all corrections are of approximately the same length as the error.

Similarly, transfer capacity, or the ability to transcribe material from a recorded card or tape to a blank one, has limited value for rough drafting—unless an error is not recognized until the operator has gone considerably passed it and is so extensive that she would like to redo the entire draft.

Revisionary Work

In revisionary work, the equipment is used to revise proposed typed material as it is developed into final form. Only new language needs to be typed manually. The prior recorded material is either untouched, rerecorded if changed, or skipped over if unwanted.

Recording Media

For revisionary work, punched paper tape can be used to do whatever can be done with magnetics, but in some respects not as conveniently or as fast. Magnetic tapes and cards will probably be easier to store than paper. The revisionary process is quicker with magnetics—not so much because magnetic machines type a bit faster, but primarily because bypassed materials are skipped much faster.

Magnetic recordings are reusable when the revision is completed. Punched paper, of course, is not. However, punched paper is so cheap that you might disregard its cost as a factor.

Also, punched paper has a few advantages over magnetic media:

- It can be written on;
- It can be cut apart and spliced together;
- It can be freely torn off at the end of each recorded unit and stored with the typed copy; and
- Its coding can be inspected—to verify a modification or to analyze what has been recorded.

Line Adjustment Important

The capacity to adjust line length to accommodate changes caused by additions and modifications is critical to revisionary work, since editing almost always affects the location of the right margin. Moreover, equipment designed with line-adjusting capacity will also be well provided with related controls to enable the operator to play out and skip word by word or line by line. If you plan to use the automatic typewriter for revisionary work, these features are important.

Transfer of Additional Revisions

The capacity to transfer material from a recorded tape or card to an unrecorded one is helpful in revisionary work—if the revision is carried forward through a *second recording*. Most revisionary work is finalized on the second run, and therefore need not be re-recorded.

Punched paper tape and card machines, by the nature of their design, have the capacity to punch a second tape or card coincidentally with the playout of a previously recorded one, because punching and playout take place at different parts of the machine.

With magnetics, it is possible to buy a single-station machine—one at which recording and playback are done by the same part of the machine, but, of course, not concurrently. Consequently, such a machine does not have transfer capacity. To obtain the ability to generate a new recording from a prior one, you must have a two-station machine, at a somewhat higher price.

Repetitive Typing

In repetitive or "programmed" typing, pre-recorded units, such as paragraphs of language, captions, or names and addresses, are fed into the equipment to produce a typed document. The final product is not necessarily identical with the recorded units used to compose it, because supplementary materials may be added from the machine's keyboard and prerecorded words and lines may be bypassed.

In regard to repetitive typing of pre-recorded materials, case data (names, addresses, captions) and paragraphs of language should be separately considered.

Cards for Case Data

In some respects, paper tape and edge-punched cards can handle case data better than magnetic recording media. These items tend to be short, they are not always recorded in the same sequence, they are used in random order, and any one of them may have to be singled out for revision at any time. Consequently, it is convenient to have each item of recorded data as a separate unit.

You can easily do so with punched paper tape and edge-punched cards. You cannot with magnetic tape. However, magnetic cards are usable because the items of data can be recorded on particular track levels of the card and separately located for playout or change.

It is also necessary to make provision for the operator to see the recorded items of data, so not only can she find what she needs, but also know how it will lay out when typed.

The holder that stores punched paper tape can have a copy of the tape's content on it. Edge-punched cards can be labeled with the card's material.

Magnetic tape, being encased in a cassette, requires an independent logging system for this information, which is awkward. Magnetic cards, however, are good because their content may be shown on one or more three- by seven-inch index cards stored together with them.

Media for Language Components

Whether language components —paragraphs or groups of paragraphs pre-recorded for repeated use—can better be stored on punched paper or on magnetics usually depends on how well developed your materials are.

Earlier stages of maturation are characterized by the use of many separate paragraphs, subjected to frequent revision to improve their content. Separate punched paper tapes, edge-punched cards, or magnetic cards are preferable to magnetic tape to facilitate the redrafting of each unit on an individual basis.

Later, when materials have become settled upon and stabilized to the point at which change is a rarity, magnetic tape is good, provided that the sequencing of the content of the tape does not require too much searching back and forth. Of course, some programs by their nature are best maintained on an individual paragraph basis permanently, no matter how well perfected.

Magnetic cards may turn out to be the best media for all purposes.

Automatic Line Adjustment

The capacity of the automatic typewriter to reposition recorded words onto new lines is of no value at all when the equipment is used to type case data. Names, addresses and captions lay out in a fixed way. A carrier-return code recorded at the end of each line will cause the machine to move to the next line on the page.

Consequently, if the use you intend is primarily the reproduction of data, or lists, or any materials that by their nature always lay out with a fixed line length, you can obtain equipment without line-adjusting capacity and save considerably in cost.

When the automatic typewriter is used to type pre-recorded language materials, the ability to readjust line length may become important. These materials are often stop-coded to permit the operator to add variable information from the machine's keyboard or to select one of several pre-recorded alternatives.

There will also be situations in which the language in a pre-recorded card or tape is not quite appropriate for the particular need of the moment, and the operator will make some modification in its use. Line length is usually affected by any of these operations, and the machine's ability to make the adjustment automatically is a great help.

However, you will find that a very large quantity of pre-recorded language materials can be typed automatically on equipment that does not readjust line length automatically. If variable entries are placed at the ends of paragraphs, no change in line length occurs.

If the variables are all of approximately the same length, such as dates and even most names, the change of line length is within such predictable limits that the variation of the right margin will be of normal tolerance. Further, if the language that follows the addition or modification must be repositioned, it is entirely possible for the operator to do it in a slower, non-automatic way.

A review of your work and the state of your exchecquer may lead you to select equipment that does not have automatic line-adjusting capacity.

Transfer Capacity Is Helpful

Transfer capacity—the ability to copy the content of a recorded card or tape onto an unrecorded one—can be helpful in connection with case data. "Master" cards or tapes can be prepared, whose function it is to help in the creation of data cards or tapes, which in turn will be stored and used to do the actual typing.

The master cards contain the material common to the data cards that they help create. For example, a master card can be used to help record captions. The master card transfers the name of the court, the county, the dash lines, and the words "plaintiff," "defendant," and "versus" to the data card, stopping at appropriate points for the operator manually to type and thereby record the names of the parties. By use of the machine's ability to transfer the content of one card to another, the master card has done about half of the typing needed to generate the data card, in this instance.

Transfer capacity also has value in connection with the use of cards and tapes for the production of pre-recorded language materials. As the individual pre-recorded paragraphs are being played out to type the required document, the machine can be simultaneously transferring the content, together with any material added manually from the machine's keyboard, to form a composit card or tape of the entire item.

Should further revision be required, the operator will find it easier to work with the composit unit, rather than having to reinsert the individual cards or tapes from which the item was generated.

CONCLUSION

There are many excellent automatic typewriters currently available. There is really no "best" machine in an absolute sense. Firms using more than one of these machines very frequently employ different makes and models, utilizing the less sophisticated ones to do the more routine work.

You should give some thought to reliability and repair. Generally speaking, automatic typing equipment is extremely hardy. It has to be, in order to stand up to the incessant use it will be subjected to. We are still using our original equipment, which is over 10 years old, and it has worked a 40-hour week from the time it arrived.

Automatic typewriters are manufactured by adding automatic capacity to a standard typewriter. The automation is in the associated controls and not in the typewriter itself. Almost all manufacturers of automatic typing equipment utilize some standard IBM machine as the typing unit, so no matter whose equipment you buy, you will probably be getting the same typewriter.

The automatic controls are electrical; there is almost never any trouble in that part of the equipment. If there is going to be trouble, it will almost surely be mechanical. Consequently, the risk of difficulty is probably identical no matter whose make you use.

Obtaining repairs in a major city is usually no problem. In outlying areas, you must make adequate inquiry about availability and cost.

Shop and compare the cost of the comprehensive service contracts, including parts, that various manufacturers offer. It is an excellent indication of the reliability of the equipment. The manufacturer's experience as to the frequency of service calls and life expectancy of parts is very clearly reflected by it.

If you can use one of the older machines and can get a good buy on a rebuilt one, do not decline it because of concern about reliability. These older, less sophisticated machines are solid workhorses, and can give you years of service.

Manufacturers and Suppliers

The following information was gathered from the manufacturers and suppliers of automatic typewriters and related accessories and materials. It is presented here simply to give the reader a general idea of what is on the market, and no endorsement by THE PRACTICAL LAWYER should be inferred.

This information was current as of February 1971 and is, of course, subject to change.

AUTOMATIC TYPEWRITERS

These descriptions of automatic typewriters are based on information supplied by their manufacturers and are not always directly comparable. For example, certain features may be standard on some machines and optional on others, and although certain machines might perform the same general function, some might do it more efficiently.

Therefore, it is important to see the machines in actual operation, before choosing one, to determine how well each will handle the automated approaches you contemplate for your office—and at what cost.

A Note on Typing Speed

Although the various manufacturers claim automatic typing speeds ranging from 150 to 180 words per minute, the significance of this figure may depend on the average word length being used and whether it includes the time lost during carriage return. In comparing speeds in *characters per second* (that is, the number of codes actually read by the machine), the difference sometimes vanishes.

For example, the IBM machines have a rated playback speed of 15.5 c.p.s. (or 186 w.p.m.), but this averages out to 150 w.p.m. because of the time lost when the carriage returns at the end of each line. (At this speed, a six-inch line will be typed in about four seconds using pica type, or in five seconds using elite.)

The Edityper, ITEL, and Quin Data automatic typewriters (described below) each claim a maximum typing speed of 175 words per minute, while Redactron claims 180. However, since none of those machines have a rated playback speed exceeding 15.5 c.p.s., they probably also type at an average of about 150 words per minute.

Therefore, the following listings will refer each machine's rated playback speed in characters per second (c.p.s.) as the most uniform means of comparison.

Auto-typist

American Automatic Typewriter
Co.
2323 North Pulaski Road
Chicago, Ill. 60639

Description

The "Auto-typist Push-button Selector Automatic Typewriter" is not itself a typewriter, but rather a specially designed memory unit that can be connected to any make or model of electric typewriter to produce automatic typing. The typewriter is placed on a console unit, which also serves as a table for the operator's use.

Material is recorded on perforated paper rolls with a capacity of 20,000 characters. During playback, the characters are sensed by a pneumatic actuating device. The desired paragraphs or clauses are selected, either singly or in groups, by pushing numbered buttons, without the handling of tapes or cards.

The Auto-typist offers "margin control," including automatic hyphenation. Its typing speed depends on the electric typewriter being used, averaging about 150 words per minute for most models.

Model 65100, which has 100 pushbutton selections, holds two memory rolls at a time, with a total capacity of 40,000 characters. Additional rolls can be inserted in a few minutes' time, as required. The Model 75, which has 50 pushbuttons, holds only one roll at a time.

The Model 67 Perforator is used to hand-punch program rolls for use on any Auto-typist model. The Model 97 Perforator automatically regenerates program rolls and includes a manual keyboard for the insertion of revised data to upgrade the copy on the program. Auto-typist agents also offer a perforating service for customers, whereby they will manually punch any copy at a usual charge of 30 cents per line.

Prices

The following list prices are F.O.B. Chicago and do not include the cost of the automatic typewriter, which the customer must supply separately.

Model 65100 . . . . . $2,750.

Model 75	1,685.
Model 67	495.
Model 97	1,450.

Edityper

The Edityper Corporation
1335 Rockville Pike
Rockville, Md. 20852

Description

The Edityper combines an IBM "Selectric" typewriter with the Edityper 200 Reader-Punch, which records on paper tape and is compact enough to be placed beside the typewriter on a standard secretarial desk. Its rated playback speed is 15.4 c.p.s.

An optional feature is the Editron Edit unit, which provides revisionary capabilities. Somewhat smaller than the reader-punch, it has pushbutton controls to allow the operator to play back recorded material in units of words, lines, sentences, or paragraphs. There is automatic adjustment of line lengths during revisions, and indentations are handled by a "Tab Memory" feature.

The Edityper is able to transfer and upgrade material from one tape to another. The addition of an auxiliary reader will permit the merging of two tapes, revising from either or both, with an updated hard copy and tape. The manufacturer is now in the process of developing the machine's capacity to handle edge-punched cards as well.

Prices

The basic cost of an Edityper, including the revision capabilities, is $6,050, and the machine can be rented for $216 per month. The auxiliary reader costs $1,350. Prices include a one-year full warranty, including service and parts.

Friden

The Singer Company
Friden Division
San Leandro, Cal. 94577

Description

The Friden "Flexowriter," which records on edge-punched cards and paper tape, has already been described in detail in the author's articles in The Practical Lawyer on *How To Automate Law-Office Typing—A Step-by-Step Approach* [May 1968, p. 69], *Edge-Punched Cards* [Apr. 1969, p. 48], and *Punched Paper Tape* [Nov. 1969, p. 54].

The punch and the reader, consisting of two units attached to the side of the typewriter, allow the transfer of recorded material from one card or tape to another. The Model 2340 "Flexowriter" has special revisionary capabilities, including automatic line adjustment and hyphenation. Model 2304 provides proportional spacing for "executive" letterwriting. Carbon ribbons are standard on some models.

"Flexowriters" of the 2300

series operate at playback speed of 12.2 c.p.s.

Prices

Model 2340 is priced at $3,950 and leases for $139 per month. Model 2304 sells for $3,600, with leasing at $131 per month. Depending on the model and features, other "Flexowriters" range from about $3,300 to $5,500.

IBM

International Business Machines
Corporation
Office Products Division
590 Madison Avenue
New York, N.Y. 10022

Mag Card "Selectric"

The IBM Magnetic Card "Selectric" Typewriter records on 3¼- by 7⅜-inch magnetic cards, which have a capacity of 50 lines or 5,000 typed characters—equivalent to somewhat more than a full page of copy. This machine is described in detail in Sternin, *Magnetic Cards—A New Medium for Automatic Typing,* The Practical Lawyer, Oct. 1970, p. 49.

The typing unit is similar to the regular IBM "Selectric" typewriter and uses an interchangeable typeball. Models come with a choice of carbon or fabric ribbons. The Read/Record Console, into which the mag cards are inserted, stands on the floor next to the operator's desk.

The machine provides automatic line adjustment and hyphenation for revisionary work, but it cannot transfer material from card to card. Its rated playback speed is 15.5 c.p.s.

MT/ST

The IBM Magnetic Tape "Selectric" Typewriter records on magnetic tape—one-half inch wide and up to 120 feet long, contained in plastic cartridges—which hold up to 28,800 characters, or about 16 letter-sized pages of typing. This machine is described in detail in Allen, *Law-Office Typing with the IBM MT/ST*, The Practical Lawyer, Apr. 1970, p. 13.

The typing unit, similar to the IBM "Selectric" typewriter, comes with its own special desk. The Tape Console, which stands beside it, has a control panel and holds either one tape (Model II) or two tapes (Model IV) at a time.

Recorded material is located on the tape by means of a "search code." The basic model searches only in one direction, but an optional feature allows reverse searches as well. There is automatic line adjustment and hyphenation for revisionary work. The two-tape model can transfer material from one tape to another, as well as switch automatically from one tape to another to merge their contents in a single typewritten document.

The typewriter has a rated playback speed of 15.5 c.p.s. Models ome with a choice of fabric or arbon ribbons.

Prices

For the Mag Card Selectric, urchase prices start at $7,875, nd monthly rental charges start t $175.

For the MT/ST, prices vary epending on the model and op-onal features. Purchase prices egin at $7,150, and monthly ental charges at $185.

TEL

TEL Corporation
nformation Products Division
585 East Bayshore
alo Alto, Cal. 94303

Description

The ITEL Word Processor uses aper tape contained in tape car-idges and also edge-punched ards. It comes as a single, desk-op unit, with the typewriter por-on in the center and the reader nd punch at either side. The ping unit utilizes the IBM Selectric" and has an inter-angeable typing element and a op-in cartridge ribbon.

Model 852 has automatic line djustment and hyphenation, has transfer capacity, and operates t a rated playback speed of 14.7 p.s.

Price

The purchase price of the ITEL ord Processor, Model 852, is 4,940.

Metro Tel

Metro Tel Corp.
409 Railroad Ave.
Westbury, N.Y. 11590

Description

Metro Tel manufactures a line of equipment, called "MATE," that employs ordinary electric typewriters to produce automatic typing. The typewriter is placed on top of a MATE Converter 201, which then plugs into one of several models of readers.

Recording must be done on a special machine, the MATE 851 Perforator, which punches rolls of paper tape. Each roll stores up to 800 lines of typewritten copy.

The basic reader unit is the MATE 602. However, the MATE 103 provides for the automatic selection of programmed paragraphs, by means of 30 push-buttons. It types at the maximum rated speed of the customer's electric typewriter, which is about 150 words per minute for most models.

Special Units

By means of a plug-in unit called the Duomate 501, two readers can be connected to a single typewriter, allowing the operator to select material from two different tapes. The MATE Bi-Type 621, on the other hand, allows a single reader to operate two typewriters simultaneously.

Prices

The following retail prices are for complete MATE systems. Typewriters are not included.

602 System	$1,803.
103 System	2,550.
Duomate System ..	3,380.
Bi-Type System ...	2,370.

The following retail prices are for individual pieces of MATE equipment.

602 Reader	$1,380.
103 Reader	2,127.
851 Perforator	825.
201 Converter	423.
501 Duomate	195.
621 Bi-Type	143.

QuinData

QuinData, Inc.
Division of Quindar Electronics, Inc.
60 Fadem Road
Springfield, N.J. 07081

Description

The QuinType-70 records typed material on punched paper tape. It does not handle edge-punched cards. It consists of an IBM heavy-duty "Selectric" typewriter (of the kind used as input and output to computers) and a reader-punch module that fits on the operator's desk.

The operator can add or delete paragraphs, sentences, lines, words, or characters. The machine has transfer capacity for "upgrading" tapes and automatic adjustment of lines and hyphenation for revisionary work. Carbon ribbons are optional. The machine's rated playback speed is 15.4 c.p.s.

Price

The QuinType-70 is priced at $6,800. Leasing or rental plans are available.

Redactron

Redactron Corporation
100 Parkway Drive South
Hauppauge, N.Y. 11787

Description

The "Data Secretary" Editing Typewriter records on magnetic tape (using the computer version of the Norelco tape cassette) or on magnetic cards, which hold 64 lines of type or about 10,000 characters. The cards are identical in size to those used by the IBM Mag Card "Selectric"; the additional capacity is attained by a closer recording density, not by a larger card. Therefore, the standard mag card of any supplier can be used in the Redactron machine.

The typing unit is a Redactron-modified IBM heavy-duty ball typewriter to which a number of extra keys have been added. The storage unit is in an auxiliary console that stands next to the operator's desk. All controls are on the typewriter keyboard.

The machine is able to adjust tomatically both left and right argins, to underscore autoatically by word or by line, to aintain an indented format when rrections have been made in the py, and to search automatically d play back prestored material. automatically sets tabs and can itch from single- to double-acing.

On Model R-5, which holds two pes or cards at a time, material n be transferred from one tape card to another at a maximum eed of 1,000 characters per cond, or the recorded material n be merged into a single docuent. Model R-4, which can hold ly one cassette or card, lacks ese capabilities.

The machine's rated playback eed is 15 c.p.s. Carbon ribbons e optional.

Prices

The "Data Secretary" will be leased for sale during the sumer of 1971 and will sell for 6,000 to $8,000, depending on he optional equipment installed.

USED OR REBUILT AUTOMATIC TYPEWRITERS

OA Data Corp.

OA Data Corp.
83 Lafayette St.
ew York, N.Y. 10003

This company states: "We sell the full line of Friden, Dura, and IBM automatic typewriters. The machines are all fully overhauled and guaranteed to be suitable for the original manufacturers' maintenance agreements. Savings are 40 to 60 per cent of the new equipment cost."

PREPARATORY MATERIALS

Circle West Company

Circle West Company
47 Circle Drive
Elmont, N.Y. 11003

Program Book

This unit is designed to aid the formulation of paragraphs of materials as a preliminary step toward eventual automation. It may also be used as the binder in which to store magnetic or edge-punched cards when the conversion to automatic typing is made. The unit is comprised of:

- A looseleaf ring binder of 1½-inch capacity, with a label holder on the back;
- 15 Dekalog Cardholder pages, each with 10 overlapping pockets to hold three- by seven-inch cards, so that the top three-quarter inch of each card will be visible;
- 10 cardboard tab dividers;
- 150 blank three- by seven-inch cards; and

- Printed material to illustrate the approach.

Price of the Program Book is $14. (Checks must accompany orders, and New York residents must include sales tax.)

Sampler Kit

A kit of various items relating to automatic typewriters, such as storage pages, have been assembled in a looseleaf ring book, together with literature on the subject.

Price of the Sampler Kit is $10. (Checks must accompany orders.)

RECORDING MEDIA

CPC Mag Cards

Computer Property Corporation
Product Manager—O.E.M.
West Street
East Hanover, N.J. 07936

CPC Magnetic Cards are compatible with the IBM Mag Card "Selectric" Typewriter. One side is oxide coated for magnetic recording, while the other side may be written or typed on for visual identification. The card may also be notched for use in automatic file retrieval equipment.

Quantity	*Price per card*
1—99	$.50
100—499	.45
500—999	.40
1,000—1,999	.30
2,000—2,999	.25
3,000—4,999	.23
5,000—19,999	.20
20,000—99,999	.18

IBM

International Business Machines
Corp.
Office Products Division
590 Madison Avenue
New York, N.Y. 10022

Magnetic Cards

IBM Mag Cards, designed for use in the IBM Mag Card "Selectric" Typewriter, are 3¼ by 7⅜ inches in size and have a "Mylar" base with oxide coating on one side. They come in packages of 25 cards each, priced at $31 per package ($1.24 per card), including card holders. Quantity prices are available.

Magnetic Tapes

Designed for use in the IBM MT/ST, IBM Magnetic Tape is one-half inch wide, contained in plastic cartridges, and is available in lengths of 35, 100, and 120 feet. The prices per cartridge are:

35 feet	$12.
100 feet	20.
120 feet	23.

Quantity prices are also available.

Memorex

Memorex Corporation
1200 Memorex Drive
Santa Clara, Cal. 95052

Magnetic Cards

Memorex Mag Cards are de- ned to be compatible with the M Magnetic Card "Selectric" pewriter. Each card comes with rotective indexing folder at no ra charge and carries a one-year rranty against manufacturing ects.

The cards (including folders) be purchased in boxes of 25 the following prices:

. of xes	*Price per Box*	*Price per Card*
-3	$26.25	$1.05
-9	21.25	.85
-29	20.00	.80
+	18.75	.75

Magnetic Tape

Memorex Magnetic Tape Car- dges are designed to be com- ible with the IBM MT/ST and gnetic Tape "Selectric" Com- ser. Each cartridge comes with ored, replaceable identification els at no extra charge and car- s a one-year warranty against nufacturing defects.

Tape cartridges come in 120- t, 100-foot, and 50-foot lengths, the following prices per car- dge:

	120 feet	*100 feet*	*50 feet*
1-49	$19.75	$17.50	$10.50
0-99	17.50	15.50	9.30
0-149	16.00	14.50	8.70
150-199	14.75	13.50	8.10
200-249	13.50	12.50	7.50
250-499	12.50	11.50	6.90
500 +	11.50	10.50	6.30

3M ("Scotch" Brand)

3M Company
Market Services
Magnetic Products Division
3M Center
St. Paul, Minn. 55101

Mag Cards

3M manufactures "Scotch" Brand MC/ST 230 Cards (compatible with the IBM Mag Card "Selectric" Typewriter), which are sold in boxes of 25 cards each. The following prices include card holders:

No. of boxes	*Price per box*	*Price per card*
1—3	$26.25	$1.05
4—9	21.25	.85
10—29	20.00	.80
30 +	18.75	.75

Magnetic Tape

"Scotch" Brand MT/ST 221 Cartridges (compatible with the IBM MT/ST and Magnetic Tape "Selectric" Composer) are available in 100-foot and 50-foot lengths at the following prices per cartridge:

	100 feet	*50 feet*
1—47	$17.50	$10.50
48—95	15.50	9.30
96—143	14.50	8.70
144—191	13.50	8.10

192—239	12.50	7.50
240—479	11.50	6.90
480 +	10.50	6.30

Robins

Robins Industries Corp.
Data Products Division
15-58 127th Street
Flushing, N.Y. 11356

Paper Tape

Standard paper perforator tapes (Catalog No. ZO) are available in eight-inch diameter rolls (980 feet) and 14-inch diameter rolls (3,040 feet). It is impregnated with an odorless lubricant to help prolong life of punching equipment.

The following prices are for one-inch wide, buff-white paper tape. Many other kinds of tape, including colored tape, fan-folded paper tape, and tape with directional arrows imprinted, are available at additional cost.

8-inch diam. roll—
28 rolls per case

No. Cases	*Price per case*
¼	$ 6.07
1—4	21.32
5—9	19.54

14-inch diam. roll—
8 rolls per case

No. Cases	*Price per case*
1—4	$18.72
5—9	17.09

Accessories

This company supplies a wide variety of accessories for handling perforated tape, including tape reels, winders, unwinders, folders, continuous-loop handling systems, editing systems, and splicers. See Catalog 7007, "Robins Perforator Tapes and Accessories."

STORAGE AND RETRIEVAL

Beemak Plastics

Beemak Plastics
7424 Santa Monica Boulevard
Los Angeles, Cal. 90046

Description

This company manufactures a variety of plastic card holders designed for holding three- by seven-inch computer cards, which might also be used for edge-punch cards and mag cards. Items include vertical and horizontal card holders, baskets, desk trays, programming trays, vertical and horizontal card racks, and vinyl envelopes.

Circle West Company

Circle West Company
47 Circle Drive
Elmont, N.Y. 11003

Interdraft Mag-holders

This holder is designed to store pages of typed material together with their corresponding magnetic card. The holder is 8½ by 11 inches and is three-hole punched. One side has a lip under which the page is inserted, and the other has a pocket for the mag card.

The price is $20 for a carton of
.

Dekalog Cardholder Pages

These are 8½ - by 11-inch card-
ard pages, each continaing 10
erlapping pockets. Each pocket
ll hold a three- by seven-inch
rd (either edge-punched cards
mag cards) so that the top three-
arters inch will be visible. The
ges are three-hole punched to
a ring binder.

The price is $25 for a carton
50.

hawk System 4000

hawk Industrial Laboratories,
Inc.
e Ward Street
rnon, N.Y. 13476

The "System 4000" automated
retrieval unit is designed to
rmit fast cross-reference selec-
n of information stored on ran-
mly filed tab-card-sized docu-
nts, such as the magnetic cards
d in automatic typing. The unit
rieves the requested card in six
onds.

The basic Retriever File con-
ns 4,000 cards, and additional 4,000-card modules can be added. The files stack on top of each other, with access to them by a single Controller keyboard. The cards can be coded for automatic cross-referencing and retrieved by multiple sequences.

Prices

The Mohawk "System 4000" sells for $8,600, and leasing is available for about $235 per month.

CARBONLESS PAPER

3M Brand

Minnesota Mining and Manufacturing Co.
Paper Products Division
Building 220-llW
3M Center
St. Paul, Minn. 55101

"3M Brand Carbonless—Type 100" comes in single sheets (8½ by 11 inches, 8½ by 14 inches, and 11 by 17 inches, or cut to order) and in rolls of various lengths ($8^{7}/_{16}$ inches wide and up to 440 feet long). One-ply rolls should be specified for purposes of draft typing.

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